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ABSTRACT

In 1987-88, a study was conducted at Piedmont Virginia Community College to determine between-quarter retention rates for various student groups and to compare the characteristics of returning and non-returning students. The study used end-of-quarter data to determine retention rates based on headcount and full-time equivalency. Rates were also calculated by full-/part-time status, freshman/sophomore status, academic program, degree goal, sex, race, age, and place of residence. Study findings, based on data for winter and spring 1983-84 through 1987-88, included the following: (1) 52.1% of the full- and part-time students enrolled in fall 1987 returned and completed the winter quarter; (2) winter-to-spring retention rates were 88.1% for full-time students and 48.6% for part-time students; (3) sophomores returned at a slightly higher rate than freshmen (i.e., 69.4% vs. 65.5% for fall-to-winter 1987-88); (4) retention of full-time, unclassified students was higher in 1987-88 than in 1986-87; (5) retention rates for full-time black students were 15% to 20% lower than those for full-time white students; (6) place of residence did not affect retention; (7) continued enrollment among part-time students was typically correlated with enrollment in a degree program and studying on campus during the day; and (8) retention rates for programs leading to Associate of Arts degrees were similar to those for Associate of Applied Science degree programs. (AAZC)

QUARTERLY STUDENT RETENTION

AT PIEDMONT VIRGINIA COMMUNITY COLLEGE

1987-1988

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QUARTERLY STUDENT RETENTION AT PIEDMONT VIRGINIA COMMUNITY COLLEGE 1987-1988

INTRODUCTION

This is the third in a series of reports examining quarterly retention statistics at Piedmont Virginia Community College (PVCC) during the previous academic year.[1] Quarterly retention rates according to a variety of institutional and student characteristics are presented, and an effort is made to determine whether major differences exist between returning and non-returning students.

The term *retention rate*, as used in this report, refers to the percentage of students during one quarter who re-enroll during the subsequent quarter. In other words, the full-time student retention rate between fall 1987 and winter 1988 was the percentage of full-time students enrolled during Fall Quarter 1987 who returned to PVCC and completed Winter Quarter 1988.

Quarterly, rather than yearly, retention rates are used in this report because attendance from term to term is critical to the success of any community college. Multiple retention measures are used because the retention rate for all students at a community college is misleading. At PVCC, over 80% of all students typically study

[1]See Ronald B. Head, *Quarterly Student Retention at Piedmont Virginia Community College: 1985-86* (PVCC Institutional Research Report No. 4-86, November 1986) and Ronald B. Head, *Quarterly Student Retention at Piedmont Virginia Community College: 1986-1987* (PVCC Institutional Research Report No. 8-87, November 1987). Note that the academic year 1987-1988 consisted of Summer Quarter 1987, Fall Quarter 1987, Winter Quarter 1988, and Spring Quarter 1988.

part-time, and approximately 50% enroll as non-curricular students. Many of these students do not intend to re-enroll at the college during the subsequent quarter.

Although multiple retention measures are reported, the emphasis in this study is upon full-time students. Full-time students are usually enrolled in degree programs and can be expected to re-enroll at the college each quarter until they graduate.

METHODOLOGY

Data in this report were collected by means of a Fortran program which used data from the STUDAGE file located on end-of-quarter AKT tapes. Because the layout of the STUDAGE file has changed since the fortran program was originally written in 1986, and because the latest revision of SIS has necessitated minor modifications in the program code, an annotated listing of the program is included in this study as Appendix A, and the actual output, or tables generated by the program, is included as Appendix B.

The advantage of using official end-of-quarter data is that retention statistics can then be compared to other end-of-quarter data. The total number of returning and non-returning students by category, as reported here, is the same number as reported in the VCCS Student Enrollment Booklets and used in other PVCC institutional research reports.

Limitations of both the program and the study should be noted. First, as already mentioned, no annual retention information has been generated In this respect, PVCC retention statistics cannot be compared to national statistics, and this make it difficult to determine how well PVCC is doing in retention compared to other, similar institutions. Secondly, no effort has been made to link retention data to student objectives. Quite simply, data relating to student objectives were not conveniently available. Finally, retention within a quarter has not been measured. Students enrolling at the beginning of a quarter but withdrawing before the end of the quarter are not counted as enrolled students during that quarter. Similarly, students completing, say, the Fall Quarter, re-enrolling during the Winter Quarter, and then withdrawing midway through the Winter Quarter are counted as non-returning students.

RETENTION RATES

Retention rates for the 1986-1987 academic year are presented in Table 1. Included in this table are the retention rates for all students (headcount), full-time equivalent students (FTES), full-time students, curricular students, freshmen, and sophomores.

Generally, retention statistics for 1987-1988 were quite similar to those for 1986-1987. Over one-half of all students enrolled at PVCC one quarter returned and completed the subsequent quarter. Approximately two of every three FTES (full-time equivalent students) returned, as did curricular students and freshmen.[2] The retention rate was slightly higher for sophomores. Between 80% and 90% of all full-time students returned to PVCC.

TABLE 1: PVCC QUARTERLY RETENTION RATES (1987-198[illegible])

	Fall to Winter			Winter to Spring		
	No. Returning	No. Not Returning	Retention (Pct.)	No. Returning	No. Not Returning	Retention (Pct.)
Headcount	2271	2090	52.1%	2078	1646	55.8%
FTES	1201	570	67.8%	1105	451	71.0%
Full-Time Students	678	121	84.9%	600	81	88.1%
Part-Time Students	1593	1969	44.7%	1478	1565	48.6%
Curricular Students	1434	726	66.4%	1352	540	71.5%
Freshmen	1087	573	65.5%	934	437	68.1%
Sophomores	347	153	69.4%	418	103	80.2%

SOURCE: VCCS end-of-quarter AKT tapes. The retention rate refers to the percentage of students returning from one quarter to the next (returning students divided by both returning and non-returning students).

Retention rates from winter to spring were higher in all categories than those from fall to winter. As can be seen in Table 2, this has been true during each of the previous five years. The reason for this may be due to the fact that Fall Quarter is the time of peak enrollment for PVCC. A larger discrepancy exists between fall and winter

[2]One FTES is equivalent to 15 student credit hours. In this respect, the FTES retention rate is calculated as follows: (1) the number of credit hours for both returning and non-returning students are totalled; (2) The FTES figures for both returning and non-returning students are calculated (the credit hour figures are divided by 15); and (3) the retention rate is the percentage of returning FTES.

A full-time student is any student carrying a student load of 12 or more credit hours during any single term. A curricular student is any student actually enrolled in an educational program leading toward a degree, certificate, or diploma.

TABLE 2: PVCC QUARTERLY RETENTION RATES (1983-1984 THROUGH 1987-1988)

Category	1983-1984 Fall to Winter	1983-1984 Winter to Spring	1984-1985 Fall to Winter	1984-1985 Winter to Spring	1985-1986 Fall to Winter	1985-1986 Winter to Spring	1986-1987 Fall to Winter	1986-1987 Winter to Spring	1987-1988 Fall to Winter	1987-1988 Winter to Spring
FTES										
No. Returning	1171	1073	1004	918	1036	975	1089	986	1201	1105
No. Not Returning	500	405	520	380	514	417	547	435	570	451
Retention	70.1%	72.6%	65.9%	70.7%	66.8%	70.0%	66.6%	69.4%	67.8%	71.0%
HEADCOUNT										
No. Returning	2087	1973	1895	1761	1990	1857	2175	1923	2271	2078
No. Not Returning	1683	1460	1773	1454	1857	1524	1964	1722	2090	1646
Retention	55.4%	57.5%	51.7%	54.8%	51.7%	54.9%	52.5%	52.8%	52.1%	55.8%
CURRICULAR STUDENTS										
No. Returning	1439	1355	1159	1093	1227	1187	1272	1190	1434	1352
No. Not Returning	771	511	542	423	528	431	581	500	726	540
Retention	65.1%	72.6%	68.1%	72.1%	69.9%	73.4%	68.6%	70.4%	66.4%	71.5%
FULL-TIME STUDENTS										
No. Returning	703	632	551	508	553	534	562	532	678	600
No. Not Returning	123	84	133	72	103	84	113	65	121	8[illegible]
Retention	85.1%	88.3%	80.6%	87.6%	84.3%	86.4%	83.3%	89.1%	84.9%	88.1%
FRESHMEN										
No. Returning	1079	928	837	701	942	767	947	789	1087	934
No. Not Returning	668	438	443	343	437	351	462	403	573	437
Retention	61.8%	67.9%	65.4%	67.1%	68.3%	68.6%	67.2%	66.2%	65.5%	68.1%
SOPHOMORES										
No. Returning	360	427	322	392	285	420	325	401	347	418
No. Not Returning	103	73	99	80	91	80	119	97	153	103
Retention	77.8%	85.4%	76.5%	83.1%	75.8%	84.0%	73.2%	80.5%	69.4%	80.2%

SOURCE: VCCS end-of-quarter AKT tapes. The retention rate refers to the percentage of students returning from one quarter to the next (returning students divided by both returning and non-returning students).

enrollment figures than between winter and spring figures. In other words, more students typically do not return between Fall Quarter and Winter Quarter than between Winter Quarter and Spring Quarter.

Table 3 presents 1987-1988 retention rates for PVCC full-time students by demographic characteristics. The retention rates for men and women were approxi-

TABLE 3: PVCC FULL-TIME STUDENT QUARTERLY RETENTION RATES BY DEMOGRAPHIC CHARACTERISTICS

Category	Fall 1987 to Winter 1988			Winter 1988 to Spring 1988		
	No. Returning	No. Not Returning	Retention (Pct.)	No. Returning	No. Not Returning	Retention (Pct.)
SEX						
Male	312	59	84.1%	267	39	87.3%
Female	366	62	85.5%	333	42	88.8%
RACE						
White	601	98	86.0%	536	64	89.3%
Black	54	21	72.0%	38	17	69.1%
Amer. Indian	4	1	80.0%	3	0	100.0%
Asian/Pacific	13	0	100.0%	13	0	100.0%
Hispanic	4	0	100.0%	8	0	100.0%
Other	2	1	66.7%	2	0	100.0%
AGE						
Under 18	4	1	80.0%	3	2	60.0%
18-21	440	87	83.5%	393	50	88.7%
22-24	78	9	89.7%	69	14	83.1%
25-34	110	17	86.6%	95	11	89.6%
35-44	34	6	85.0%	30	2	93.8%
45-59	10	1	90.9%	8	2	80.0%
Over 60	2	0	100.0%	2	0	100.0%
Mean	23	22	--	23	22	--
Median	20	20	--	20	20	--
RESIDENCE						
Albemarle	262	32	89.1%	219	27	89.0%
Buckingham	9	5	64.3%	6	2	75.0%
Charlottesville	196	34	85.2%	186	29	86.5%
Fluvanna	29	7	80.6%	23	5	82.1%
Greene	30	6	83.3%	27	2	93.1%
Louisa	33	5	86.8%	28	3	90.3%
Nelson	26	6	81.3%	22	2	91.7%
IN-DISTRICT	585	95	86.0%	511	70	88.0%
Out-of-District	79	20	79.8%	74	11	87.1%
Out-of-State	14	6	70.0%	15	0	100.0%
TOTAL	678	121	84.9%	600	81	88.1%

SOURCE: VCCS end-of-quarter AKT tapes. The retention rate refers to the percentage of students returning from one quarter to the next (returning students divided by both returning and non-returning students).

mately the same. The retention rates for white students were higher than those for black students. Minority students other than black also had higher retention rates than black students. The retention rates by age category, as well as by mean and median age, were approximately the same.

There seems to be no relationship between distance from PVCC and retention. The only locality within the service region where this was not true was Buckingham County. It should be noted,

however, that the number of full-time students from Buckingham was so small that statistically meaningful conclusions cannot be drawn. It should also be noted that Buckingham County is within the service regions of two community colleges, PVCC and Southside Virginia Community College.

The retention rates of students from outside the college's service region between Fall Quarter 1987 and Winter Quarter 1988 were lower than those of students from within the service region. This was not true, however, between Winter Quarter 1988 and Spring Quarter 1988. Nor was it true during the previous academic year.

Table 4 presents 1987-1988 retention rates of PVCC full-time students by selected enrollment charac-

TABLE 4: PVCC FULL-TIME STUDENT QUARTERLY RETENTION RATES BY ENROLLMENT CHARACTERISTICS

Category	Fall 1987 to Winter 1988			Winter 1988 to Spring 1988		
	No. Returning	No. Not Returning	Retention (Pct.)	No. Returning	No. Not Returning	Retention (Pct.)
New	285	69	80.5%	36	11	76.6%
Returning	393	52	88.3%	564	70	89.0%
Day	675	120	84.9%	597	81	88.1%
Evening	3	1	75.0%	3	0	100.0%
On-Campus	677	119	85.1%	600	81	88.1%
Off-Campus	1	2	33.3%	0	0	--
College Transfer	455	76	85.7%	399	54	88.1%
Occup./Technical	166	28	85.6%	153	22	87.4%
Developmental	30	10	75.0%	24	3	88.9%
Unclassified	27	7	79.4%	24	2	92.3%
A.A./A.S.	455	76	85.7%	399	54	88.1%
A.A.S.	157	27	85.3%	149	18	89.2%
Diploma	1	0	100.0%	0	0	--
Certificate	8	1	88.9%	4	4	50.0%
Developmental	30	10	75.0%	24	3	88.9%
Unclassified	27	7	79.4%	24	2	92.3%
TOTAL	678	121	84.9%	600	81	88.1%

SOURCE: VCCS end-of-quarter AKT tapes. The retention rate refers to the percentage of students returning from one quarter to the next (returning students divided by both returning and non-returning students).

teristics. As might be expected, the retention rates for returning students were higher than those for new students, and between Fall Quarter 1987 and Winter Quarter 1988, the retention rates for curricular students were higher than those for unclassified and developmental students.

In most respects, retention rates according to demographic and enrollment characteristics were similar to those reported for 1986-1987. The most noticeable difference concerns full-time, unclassified students. Retention rates for these students were much higher during 1987-1988 than during 1986-

TABLE 5: PVCC FULL-TIME STUDENT QUARTERLY RETENTION RATES BY ACADEMIC PROGRAM (1987-1988)

Program	Fall to Winter			Winter to Spring		
	No. Returning	No. Not Returning	Retention (Pct.)	No. Returning	No. Not Returning	Retention (Pct.)
Business Admin.	126	19	86.9%	119	12	90.8%
Education	21	5	80.8%	17	4	81.0%
Fine Arts	12	2	85.7%	15	1	93.8%
General Studies	78	16	83.0%	71	13	84.5%
Liberal Arts	160	24	87.0%	131	16	89.1%
Science	58	10	85.3%	46	8	85.2%
A.A./A.S. TOTALS	455	76	85.7%	399	54	88.1%
Accounting	11	3	78.6%	8	0	100.0%
Computer Programming	17	5	77.3%	16	1	94.1%
Drafting & Design	16	1	94.1%	9	4	69.2%
Electronics	15	2	88.2%	16	2	88.9%
Management	22	6	78.6%	19	1	95.0%
Marketing	8	1	88.9%	11	0	100.0%
Nursing	28	1	96.6%	28	3	90.3%
Police Science	19	1	95.0%	19	5	79.2%
Respiratory Therapy	9	2	81.8%	9	0	100.0%
Secretarial Science	10	3	76.9%	11	2	84.6%
Science Laboratory	2	2	50.0%	3	0	100.0%
A.A.S. TOTALS	157	27	85.3%	149	18	89.2%
Arts & Crafts	0	0	--	0	0	--
Career Studies	8	1	88.9%	2	2	50.0%
Child Care	0	0	--	0	0	--
Clerical Studies	0	0	--	1	0	100.0%
Drafting	0	0	--	0	1	0.0%
Draft Design	1	0	100.0%	0	0	--
Elec./Electronics	0	0	--	0	0	--
Elec. Servicing	0	0	--	1	1	50.0%
Health Technology	0	0	--	0	0	--
Law Enforcement	0	0	--	0	0	--
DIPLOMA/CERT. TOTALS	9	1	90.0%	4	4	50.0%
TOTAL	621	104	85.7%	552	76	87.9%

SOURCE: VCCS end-of-quarter AKT tapes. The retention rate refers to the percentage of students returning from one quarter to the next (returning students divided by both returning and non-returning students).

1987, just as they were higher during 1986-1987 than during 1985-1986.

Full-time student retention rates by academic program for 1987-1988 are presented in Table 5. Retention rates for programs leading toward the A.A. (Associate of Arts) or A.S. (Associate of Science) degrees were similar to those for programs leading toward the A.A.S. (Associate of Applied Science) degree. Retention rates for programs leading toward certificates or diplomas were nearly twice as high between fall and winter as they were between winter and spring. However, the actual numbers of returning and non-returning students within programs leading toward certificates or diplomas were so small that meaningful conclusions cannot be safely drawn.

Full-time student retention rates by academic program for the five-year period 1983-1984 through 1987-1988 are presented in Table 6. As can be seen, these rates have been fairly consistent during the five-year period. In the few instances where the figures have not been consistent, the inconsistencies have been largely due to small numbers of students in individual, academic programs.

Retention rates by academic program for 1987-1988 are shown for curricular students in Table 7, for freshmen in Table 8, and for sophomores in Table 9. As was noted in last year's report, retention rates for general studies are revealing. The rate for full-time students in the general studies program from both fall to winter and winter to spring was only slightly lower than that for all A.A./A.S. students. The rates for general studies curricular students, freshmen, and sophomores, however, were much

TABLE 6: PVCC FULL-TIME STUDENT QUARTERLY RETENTION RATES BY ACADEMIC PROGRAM (1983-1984 THROUGH 1987-1988)

Program	Fall to Winter					Winter to Spring				
	1983-1984	1984-1985	1985-1986	1986-1987	1987-1988	1983-1984	1984-1985	1985-1986	1986-1987	1987-1988
Bus. Adm.	85%	80%	87%	87%	87%	90%	86%	90%	86%	91%
Education	81%	79%	87%	93%	81%	93%	89%	93%	90%	81%
Fine Arts	100%	78%	93%	83%	86%	100%	100%	73%	83%	94%
Gen. Stud.	79%	79%	11%	80%	83%	83%	86%	83%	89%	85%
Lib. Arts	91%	85%	89%	82%	87%	91%	94%	89%	86%	89%
Science	86%	84%	93%	82%	85%	91%	84%	84%	90%	85%
A.A./A.S.	84%	81%	88%	84%	86%	89%	88%	87%	87%	88%
Accounting	92%	92%	100%	85%	79%	100%	100%	100%	100%	100%
Comp. Prg.	--	--	67%	89%	77%	--	--	83%	94%	94%
Data Proc.	82%	83%	100%	--	--	85%	82%	80%	--	--
Draft & Des.	--	--	--	--	94%	--	--	--	--	69%
Elec.	76%	76%	84%	69%	88%	93%	83%	94%	89%	89%
Management	83%	80%	74%	86%	79%	76%	91%	78%	96%	95%
Marketing	--	--	--	88%	89%	--	--	--	86%	100%
Nursing	97%	100%	89%	100%	97%	100%	95%	90%	94%	90%
Police Sc.	75%	53%	100%	84%	95%	90%	79%	94%	94%	79%
Resp. Th.	95%	96%	94%	87%	82%	100%	100%	100%	92%	100%
Secretary	92%	100%	77%	85%	77%	92%	88%	93%	85%	85%
Science Lab.	--	--	--	--	50%	--	--	--	--	100%
A.A.S.	86%	84%	81%	86%	85%	90%	89%	89%	93%	89%
Art/Craft	100%	100%	--	100%	--	100%	50%	--	100%	--
Career St.	--	--	75%	100%	89%	--	100%	100%	100%	50%
Child Care	--	0%	--	--	--	--	--	--	--	--
Cler. St.	67%	100%	--	--	--	100%	--	--	--	100%
Drafting	--	--	100%	100%	--	--	50%	100%	100%	0%
Draft Des.	83%	80%	86%	100%	100%	100%	100%	100%	100%	--
Elec./Elec.	90%	--	--	--	--	100%	75%	--	--	--
Elec. Svc.	0%	--	0%	--	--	100%	--	-	100%	50%
Health	100%	100%	100%	100%	--	100%	100%	50%	100%	--
Law Enf.	--	--	--	--	--	--	--	100%	100%	--
DIP./CERT.	85%	82%	79%	100%	90%	100%	79%	93%	100%	50%
TOTAL	85%	81%	86%	85%	86%	88%	88%	88%	89%	88%

SOURCE: VCCS end-of-quarter AKT tapes. The retention rate refers to the percentage of students returning from one quarter to the next (returning students divided by both returning and non-returning students).

lower in most instances than those for all A.A./A.S. curricular students, freshmen, and sophomores.

TABLE 7: PVCC CURRICULAR STUDENT QUARTERLY RETENTION RATES BY ACADEMIC PROGRAM (1987-1988)

Program	Fall to Winter			Winter to Spring		
	No. Returning	No. Not Returning	Retention (Pct.)	No. Returning	No. Not Returning	Retention (Pct.)
Business Admin.	227	88	72.1%	226	67	77.1%
Education	50	27	64.9%	44	17	72.1%
Fine Arts	28	11	71.8%	29	10	74.4%
General Studies	265	241	54.2%	285	154	64.9%
Liberal Arts	247	54	82.1%	229	56	80.4%
Science	97	41	70.3%	83	39	68.0%
A.A./A.S. TOTALS	934	462	66.9%	896	343	72.3%
Accounting	33	23	58.9%	36	12	75.0%
Computer Programming	60	49	55.0%	59	30	66.3%
Drafting & Design	23	5	82.1%	19	7	73.1%
Electronics	43	19	69.4%	37	24	60.7%
Management	101	70	59.1%	90	39	69.8%
Marketing	15	6	71.4%	20	6	76.9%
Nursing	108	21	83.7%	98	17	85.2%
Police Science	27	19	58.7%	25	11	69.4%
Respiratory Therapy	12	4	75.0%	12	1	92.3%
Secretarial Science	28	15	65.1%	19	22	46.3%
Science Laboratory	6	2	75.0%	6	1	85.7%
A.A.S. TOTALS	456	233	66.2%	421	170	71.2%
Arts & Crafts	3	2	60.0%	3	1	75.0%
Career Studies	26	13	66.7%	19	15	55.9%
Child Care	0	0	--	0	0	--
Clerical Studies	1	0	100.0%	2	2	50.0%
Drafting	2	4	33.3%	2	1	66.7%
Draft Design	5	4	55.6%	4	2	66.7%
Elec./Electronics	0	0	--	0	0	--
Elec. Servicing	4	4	50.0%	2	3	40.0%
Health Technology	2	3	40.0%	1	3	25.0%
Law Enforcement	1	1	50.0%	2	0	100.0%
DIPLOMA/CERT. TOTALS	44	31	58.7%	35	27	56.5%
TOTAL	1434	726	66.4%	1352	540	71.5%

SOURCE: VCCS end-of-quarter AKT tapes. The retention rate refers to the percentage of students returning from one quarter to the next (returning students divided by both returning and non-returning students).

TABLE 8: PVCC FRESHMAN QUARTERLY RETENTION RATES BY ACADEMIC PROGRAM (1987-1988)

Program	Fall to Winter			Winter to Spring		
	No. Returning	No. Not Returning	Retention (Pct.)	No. Returning	No. Not Returning	Retention (Pct.)
Business Admin.	167	56	71.7%	151	50	75.1%
Education	35	20	63.6%	26	16	61.9%
Fine Arts	24	7	77.4%	20	8	71.4%
General Studies	250	218	53.4%	238	148	61.7%
Liberal Arts	200	41	83.0%	171	47	78.4%
Science	82	31	72.6%	62	28	68.9%
A.A./A.S. TOTALS	758	383	66.4%	668	297	69.2%
Accounting	24	19	55.8%	28	8	77.8%
Computer Programming	40	35	53.3%	35	21	62.5%
Drafting & Design	20	4	83.3%	16	4	80.0%
Electronics	28	14	66.7%	21	22	48.8%
Management	57	49	53.8%	49	22	69.0%
Marketing	12	6	66.7%	12	6	66.7%
Nursing	54	9	85.7%	28	4	87.5%
Police Science	21	10	67.7%	19	8	70.4%
Respiratory Therapy	10	2	83.3%	9	1	90.0%
Secretarial Science	19	12	61.3%	13	18	41.9%
Science Laboratory	5	2	71.4%	5	1	83.3%
A.A.S. TOTALS	290	162	64.2%	235	115	67.1%
Arts & Crafts	3	2	60.0%	3	1	75.0%
Career Studies	26	13	66.7%	19	15	55.9%
Child Care	0	0	--	0	0	--
Clerical Studies	1	0	100.0%	2	2	50.0%
Drafting	2	4	33.3%	2	1	66.7%
Draft Design	0	1	0.0%	0	0	--
Elec./Electronics	0	0	--	0	0	--
Elec. Servicing	4	4	50.0%	2	3	40.0%
Health Technology	2	3	40.0%	1	3	25.0%
Law Enforcement	1	1	50.0%	2	0	100.0%
DIPLOMA/CERT. TOTALS	39	28	58.2%	31	25	55.4%
TOTAL	1087	573	65.5%	934	437	68.1%

SOURCE: VCCS end-of-quarter AKT tapes. The retention rate refers to the percentage of students returning from one quarter to the next (returning students divided by both returning and non-returning students).

TABLE 9: PVCC SOPHOMORE QUARTERLY RETENTION RATES BY ACADEMIC PROGRAM (1987-1988)

Program	Fall to Winter			Winter to Spring		
	No. Returning	No. Not Returning	Retention (Pct.)	No. Returning	No. Not Returning	Retention (Pct.)
Business Admin.	60	22	73.2%	75	17	81.5%
Education	15	7	68.2%	18	1	94.7%
Fine Arts	4	4	50.0%	9	2	81.8%
General Studies	35	23	60.3%	47	6	88.7%
Liberal Arts	47	13	78.3%	58	9	86.6%
Science	15	10	60.0%	21	11	65.6%
A.A./A.S. TOTALS	176	79	69.0%	228	46	83.2%
Accounting	9	4	69.2%	8	4	66.7%
Computer Programming	20	14	58.8%	24	9	72.7%
Drafting & Design	3	1	75.0%	3	3	50.0%
Electronics	15	5	75.0%	16	2	88.9%
Management	44	21	67.7%	41	17	70.7%
Marketing	3	0	100.0%	8	0	100.0%
Nursing	54	12	81.8%	70	13	84.3%
Police Science	6	9	40.0%	6	3	66.7%
Respiratory Therapy	2	2	50.0%	3	0	100.0%
Secretarial Science	9	3	75.0%	6	4	60.0%
Science Laboratory	1	0	100.0%	1	0	100.0%
A.A.S. TOTALS	166	71	70.0%	186	55	77.2%
Arts & Crafts	0	0	--	0	0	--
Career Studies	0	0	--	0	0	--
Child Care	0	0	--	0	0	--
Clerical Studies	0	0	--	0	0	--
Drafting	0	0	--	0	0	--
Draft Design	5	3	62.5%	4	2	66.7%
Elec./Electronics	0	0	--	0	0	--
Elec. Servicing	0	0	--	0	0	--
Health Technology	0	0	--	0	0	--
Law Enforcement	0	0	--	0	0	--
DIPLOMA/CERT. TOTALS	5	3	62.5%	4	2	66.7%
TOTAL	347	153	69.4%	418	103	80.2%

SOURCE: VCCS end-of-quarter AKT tapes. The retention rate refers to the percentage of students returning from one quarter to the next (returning students divided by both returning and non-returning students).

DEMOGRAPHIC AND ENROLLMENT CHARACTERISTICS OF RETURNING AND NON-RETURNING STUDENTS

Tables 10 through 13 present distributions of both full-time and part-time returning and non-returning students by demographic and enrollment characteristics. Percentages in these tables are by column by group.

TABLE 10: PVCC FULL-TIME RETURNING AND NON-RETURNING STUDENTS BY DEMOGRAPHIC CHARACTERISTICS

	Fall 1987 to Winter 1988				Winter 1988 to Spring 1988			
	Returning		Non-Returning		Returning		Non-Returning	
Category	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
SEX								
Male	312	46.0%	59	48.8%	267	44.5%	39	48.1%
Female	366	54.0%	62	51.2%	333	55.5%	42	51.9%
RACE								
White	601	88.6%	98	81.0%	536	89.3%	64	79.0%
Black	54	8.0%	21	17.4%	38	6.3%	17	21.0%
Amer. Indian	4	0.6%	1	0.8%	3	0.5%	0	0.0%
Asian/Pacific	13	1.9%	0	0.0%	13	2.2%	0	0.0%
Hispanic	4	0.6%	0	0.0%	8	1.3%	0	0.0%
Other	2	0.3%	1	0.8%	2	0.3%	0	0.0%
AGE								
Under 18	4	0.6%	1	0.8%	3	0.5%	2	2.5%
18-21	440	64.9%	87	71.9%	393	65.5%	50	61.7%
22-24	78	11.5%	9	7.4%	69	11.5%	14	17.3%
25-34	110	16.2%	17	14.0%	95	15.8%	11	13.6%
35-44	34	5.0%	6	5.0%	30	5.0%	2	2.5%
45-59	10	1.5%	1	0.8%	8	1.3%	2	2.5%
Over 60	2	0.3%	0	0.0%	2	0.3%	0	0.0%
Mean	23	--	22	--	23	--	22	--
Median	20	--	20	--	20	--	20	--
RESIDENCE								
Albemarle	262	38.6%	32	26.4%	219	36.5%	27	33.3%
Buckingham	9	1.3%	5	4.1%	6	1.0%	2	2.5%
Charlottesville	196	28.9%	34	28.1%	186	31.0%	29	35.8%
Fluvanna	29	4.3%	7	5.8%	23	3.8%	5	6.2%
Greene	30	4.4%	6	5.0%	27	4.5%	2	2.5%
Louisa	33	4.9%	5	4.1%	28	4.7%	3	3.7%
Nelson	26	3.8%	6	5.0%	22	3.7%	2	2.5%
IN-DISTRICT	585	86.3%	95	78.5%	511	85.2%	70	86.4%
Out-of-District	79	11.7%	20	16.5%	74	12.3%	11	13.6%
Out-of-State	14	2.1%	6	5.0%	15	2.5%	0	0.0%
TOTAL	678	100.0%	121	100.0%	600	100.0%	81	100.0%

SOURCE: VCCS end-of-quarter AKT tapes.

TABLE 11: PVCC PART-TIME RETURNING AND NON-RETURNING STUDENTS BY DEMOGRAPHIC CHARACTERISTICS

Category	Fall 1987 to Winter 1988				Winter 1988 to Spring 1988			
	Returning		Non-Returning		Returning		Non-Returning	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
SEX								
Male	548	34.4%	688	34.9%	504	34.1%	598	38.2%
Female	1045	65.6%	1281	65.1%	974	65.9%	967	61.8%
RACE								
White	1435	90.1%	1743	88.5%	1331	90.1%	1396	89.2%
Black	129	8.1%	188	9.5%	112	7.6%	146	9.3%
Amer. Indian	2	0.1%	4	0.2%	2	0.1%	1	0.1%
Asian/Pacific	16	1.0%	16	0.8%	19	1.3%	13	0.8%
Hispanic	10	0.6%	10	0.5%	11	0.7%	8	0.5%
Other	1	0.1%	8	0.4%	3	0.2%	1	0.1%
AGE								
Under 18	10	0.6%	9	0.5%	12	0.8%	14	0.9%
18-21	194	12.2%	196	10.0%	203	13.7%	181	11.6%
22-24	208	13.1%	218	11.1%	174	11.8%	222	14.2%
25-34	548	34.4%	716	36.4%	503	34.0%	535	34.2%
35-44	409	25.7%	475	24.1%	379	25.6%	352	22.5%
45-59	163	10.2%	286	14.5%	150	10.1%	219	14.0%
Over 60	61	3.8%	69	3.5%	57	3.9%	42	2.7%
Mean	33	--	34	--	33	--	33	--
Median	31	--	32	--	31	--	31	--
RESIDENCE								
Albemarle	603	37.9%	784	39.8%	551	37.3%	639	40.8%
Buckingham	15	0.9%	41	2.1%	18	1.2%	13	0.8%
Charlottesville	550	34.5%	546	27.7%	495	33.5%	469	30.0%
Fluvanna	63	4.0%	109	5.5%	65	4.4%	64	4.1%
Greene	75	4.7%	88	4.5%	69	4.7%	101	6.5%
Louisa	42	2.6%	96	4.9%	39	2.6%	67	4.3%
Nelson	65	4.1%	82	4.2%	60	4.1%	49	3.1%
IN-DISTRICT	1413	88.7%	1746	88.7%	1297	87.8%	1402	89.6%
Out-of-District	146	9.2%	179	9.1%	144	9.7%	119	7.6%
Out-of-State	34	2.1%	44	2.2%	37	2.5%	44	2.8%
TOTAL	1593	100.0%	1969	100.0%	1478	100.0%	1565	100.0%

SOURCE: VCCS end-of-quarter AKT tapes.

Demographically, the most noticeable difference between full-time returning and non-returning students was with respect to race. As can be seen in Table 10, a higher proportion of full-time returning students were white than were full-time non-returning students. This would seem to indicate a retention problem with respect to blacks, and indeed, as was pointed out earlier, the retention rate of blacks was 15% to 20% lower than that for whites (see Table 3).

Demographically, part-time returning and non-returning students were quite similar. As can be seen in Table 11, the proportion of whites to blacks for part-time returning students was only slightly higher than that for non-returning students.

With respect to the enrollment characteristics of full-time students, returning and non-returning students differed only according to new/returning status. As can be seen in Table 12, the proportion of new to returning students was much higher among full-time non-returning students than among full-time returning students. This is hardly surprising, however, as it has already been shown that retention rates for new students were lower than those for returning students (see Table 4).

TABLE 12: PVCC FULL-TIME RETURNING AND NON-RETURNING STUDENTS BY ENROLLMENT CHARACTERISTICS

	Fall 1987 to Winter 1988				Winter 1988 to Spring 1988			
	Returning		Non-Returning		Returning		Non-Returning	
Category	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
New	285	42.0%	69	57.0%	36	6.0%	11	13.6%
Returning	393	58.0%	52	43.0%	564	94.0%	70	86.4%
Day	675	99.6%	120	99.2%	597	99.5%	81	100.0%
Evening	3	0.4%	1	0.8%	3	0.5%	0	0.0%
On-Campus	677	99.9%	119	98.3%	600	100.0%	81	100.0%
Off-Campus	1	0.1%	2	1.7%	0	0.0%	0	0.0%
Transfer	455	67.1%	76	62.8%	399	66.5%	54	66.7%
Occup./Tech.	166	24.5%	28	23.1%	153	25.5%	22	27.2%
Developmental	30	4.4%	10	8.3%	24	4.0%	3	3.7%
Unclassified	27	4.0%	7	5.8%	24	4.0%	2	2.5%
A./A.S.	455	67.1%	76	62.8%	399	66.5%	54	66.7%
A.A.S.	157	23.2%	27	22.3%	149	24.8%	18	22.2%
Diploma	1	0.1%	0	0.0%	0	0.0%	0	0.0%
Certificate	8	1.2%	1	0.8%	4	0.7%	4	4.9%
Developmental	30	4.4%	10	8.3%	24	4.0%	3	3.7%
Unclassified	27	4.0%	7	5.8%	24	4.0%	2	2.5%
TOTAL	678	100.0%	121	100.0%	600	100.0%	81	100.0%

SOURCE: VCCS end-of-quarter AKT tapes.

TABLE 13: PVCC PART-TIME RETURNING AND NON-RETURNING STUDENTS BY ENROLLMENT CHARACTERISTICS

Category	Fall 1987 to Winter 1988				Winter 1988 to Spring 1988			
	Returning		Non-Returning		Returning		Non-Returning	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
New	359	22.5%	773	39.3%	187	12.7%	503	32.1%
Returning	1234	77.5%	1196	60.7%	1291	87.3%	1062	67.9%
Day	915	57.4%	985	50.0%	867	58.7%	699	44.7%
Evening	678	42.6%	984	50.0%	611	41.3%	866	55.3%
On-Campus	1237	77.7%	1284	65.2%	1172	79.3%	971	62.0%
Off-Campus	356	22.3%	685	34.8%	306	20.7%	594	38.0%
Transfer	479	30.1%	386	19.6%	497	33.6%	289	18.5%
Occup./Tech.	334	21.0%	236	12.0%	303	20.5%	175	11.2%
Developmental	26	1.6%	26	1.3%	28	1.9%	16	1.0%
Unclassified	754	47.3%	1321	67.1%	650	44.0%	1085	69.3%
A.A./A.S.	479	30.1%	386	19.6%	497	33.6%	289	18.5%
A.A.S.	299	18.8%	206	10.5%	272	18.4%	152	9.7%
Diploma	4	0.3%	4	0.2%	4	0.3%	2	0.1%
Certificate	31	1.9%	26	1.3%	27	1.8%	21	1.3%
Developmental	26	1.6%	26	1.3%	28	1.9%	16	1.0%
Unclassified	754	47.3%	1321	67.1%	650	44.0%	1085	69.3%
TOTAL	1593	100.0%	1969	100.0%	1478	100.0%	1565	100.0%

SOURCE: VCCS end-of-quarter AKT tapes.

With respect to the enrollment characteristics of part-time students, not only were there differences according to new/returning status, but as can be seen in Table 13, there were also differences according to time, location, academic program, and degree. A larger percentage of part-time returning students studied on PVCC's main campus during the day than did non-returning students. A larger percentage of part-time returning students also were enrolled in academic programs leading toward a degree, certificate, or diploma than were part-time non-returning students. The message seems to be clear: part-time students are more likely to return to PVCC if they are enrolled in curricular programs and study on-campus during the day.

CONCLUSIONS

An examination of retention rates during the past five years reveals the following:

- Retention rates between Winter Quarter and Spring Quarter are higher than retention rates between Fall Quarter and Winter Quarter.
- Slightly over half of all students enrolled during one quarter re-enroll at PVCC and complete the subsequent quarter.
- Between 80% and 90% of all full-time students enrolled during one quarter re-enroll at PVCC and complete the subsequent quarter.
- Approximately two of every three curricular students enrolled during one quarter re-enroll at PVCC and complete the subsequent quarter.
- The retention rate for freshmen ranges from approximately 60-70% and for sophomores from approximately 70-80%.
- Part-time students who return to PVCC from one term to the next are usually enrolled in programs leading toward degrees and study on the main campus during the day. Part-time students who do not return are usually non-curricular students who study off-campus during the evening.

All of the above were true during 1987-1988. In fact, 1987-1988 retention statistics were quite similar to 1986-1987 retention statistics. Two important trends, however, with respect to full-time student retention were noted.

First, the retention of full-time, unclassified students was much higher in 1987-1988 than in 1986-1987, just as it was much higher in 1986-1987 than in 1985-1986. It would appear that many full-time students are waiting longer to enroll in degree

programs.

Secondly, retention rates for full-time black students were 15% to 20% lower than retention rates for full-time white students. This indicates that while the college has been successful in recruiting blacks, it has been less successful in retaining them. Perhaps the entire experience of blacks at PVCC should be re-examined, and factors discouraging blacks to re-enroll should be identified and remedied.

APPENDIX A

FORTRAN PROGRAM FOR GENERATING RETENTION STATISTICS

```
//PVRETURN JOB (1000,V003,9,50),HEAD,REGION=4096K,CLASS=F,TIME=0009,
//   PRTY=3,MSGCLASS=A,MSGLEVEL=(1,1),NOTIFY=PVHEADR
***ROUTE PRINT N4R23
***ROUTE XEQ HOST
***SETUP MOUNT TAPE CALLED FOR NO RING PLEASE
***SETUP MOUNT TAPE CALLED FOR NO RING PLEASE
// EXEC FORTVCG,PARM=FIXED
C  PROGRAM NAME . . . RETAIN.
C
C  AUTHOR:  R. HEAD              DATE WRITTEN: SEPTEMBER 1986
C
C  SIS VERSION: 3.14          REVISION DATE: NOVEMBER 1988
C
C  THIS PROGRAM READS TWO CONSECUTIVE END-OF-QUARTER AKT TAPES AND
C  MATCHES STUDENTS BY SOCIAL SECURITY NUMBER TO DETERMINE RETURNING
C  AND NON-RETURNING STUDENTS.  DESCRIPTIVE DATA ON RETURNING AND
C  NON-RETURNING STUDENTS IS THEN COLLECTED IN TABLES (ARRAYS) AND
C  PRINTED.  DATA INCLUDES RETURNING AND NON-RETURNING STUDENTS BY
C  RACE, SEX, AGE, JURISDICTION, CURRICULUM, DEGREE PROGRAM, FRESHMAN
C  OR SOPHOMORE STATUS, FULL- OR PART-TIME STATUS, FIRST-TIME, TRANSFER,
C  OR RETURNING STATUS, AND ON- OR OFF-CAMPUS STATUS.
C
C  THE FOLLOWING VARIABLES ARE READ FROM THE 1ST QUARTER STUDAGE FILE:
C
C  SSN1 . . . . (INTEGER) STUDENT'S SOCIAL SECURITY NUMBER.
C  COLLEG . . . (INTEGER) VCCS INSTITUTION CODE. PVCC=282.
C  CAMPUS . . . (CHAR)    ON-CAMPUS='A' OFF-CAMPUS='1','2',ETC.
C  SEX  . . . . (INTEGER) 1=MALE 2=FEMALE.
C  PLACE  . . . (CHAR)    PVCC SERVICE REGION LOCALITY.
C  AWARD  . . . (INTEGER) LEVEL (FR., SOPH., ETC.) AND DEGREE.
C  CURRIC . . . (INTEGER) CURRICULUM.
C  RACE . . . . (INTEGER) 1=WHITE 2=BLACK 3=ASIAN/PACIFIC ISLANDER
C                         4=HISPANIC 5=OTHER.
C  STATUS . . . (INTEGER) 1=FIRST-TIME 2=RE-ADMIT 3=TRANSFER 4=RETURNING
C  FPA  . . . . (CHAR)    FULL-TIME='F' PART-TIME='P'.
C  HRS  . . . . (INTEGER) TOTAL STUDENT CREDIT HOURS.
C  QTR1 . . . . (CHAR)    1ST QUARTER (FA=FALL; WI=WINTER; SP=SPRING).
C  QTR1YR . . . (INTEGER) 1ST QUARTER YEAR.
C  MONTH  . . . (INTEGER) STUDENT'S BIRTH MONTH.
C  YEAR . . . . (INTEGER) STUDENT'S BIRTH YEAR.
C  DAY  . . . . (CHAR)    E=EVENING   D=DAY.
C
C  THE FOLLOWING VARIABLES ARE READ FROM THE 2ND QUARTER STUDAGE FILE:
C
C  COLLEG   . . (INTEGER) VCCS INSTITUTION CODE. PVCC=282.
C  SSN2 . . . . (INTEGER) STUDENT'S SOCIAL SECURITY NUMBER.
C
C  THE FOLLOWING VARIABLES ARE USED IN THE PROGRAM:
C
C  SSAN(4000) . (INTEGER) ARRAY OF SORTED SECOND QUARTER SOCIAL
C                         SECURITY NUMBERS.
C  RETFLG . . . (LOGICAL) RETURNING STUDENT (TRUE OR FALSE).
```

```
C  REGION(7)  . (CHAR)    PVCC SERVICE REGION LOCALITY CODES.
C  CODE(30) . . (INTEGER) CURRICULUM CODES.
C  LABEL1(29) . (CHAR)    CATEGORY LABELS FOR TABLE 1.
C  TABLE1(29,4) (INTEGER) TABLE 1 (DEMOGRAPHICS) ARRAY.
C  LABEL2(17) . (CHAR)    CATEGORY LABELS FOR TABLE 2.
C  TABLE2(17,4) (INTEGER) TABLE 2 (ENROLLMENT) ARRAY
C  LABEL3(32) . (CHAR)    CATEGORY LABELS FOR TABLES 3 AND 4.
C  TABLE3(32,4) (INTEGER) TABLE 3 (CURRICULUM BY FULL-TIME/PART-TIME
C                         STATUS) ARRAY.
C  TABLE4(32,4) (INTEGER) TABLE 4 (CURRICULUM BY FRESMAN/SOPHPOMORE
C                         STATUS) ARRAY.
C  RETURN . . . (INTEGER) NUMBER OF RETURNING STUDENTS.
C  NORET  . . . (INTEGER) NUMBER OF NON-RETURNING STUDENTS.
C  SSN2SZ . . . (INTEGER) NUMBER OF 2D QUARTER SOCIAL SECURITY NOS.
C  COUNT  . . . (INTEGER) NUMBER OF 1ST QUARTER STUDENTS.
C  AGE  . . . . (INTEGER) AGE OF STUDENT.
C  AGE1(1000) . (INTEGER) AGES OF RETURNING FULL-TIME STUDENTS.
C  AGE2(2000) . (INTEGER) AGES OF RETURNING PART-TIME STUDENTS.
C  AGE3(1000) . (INTEGER) AGES OF NON-RETURNING FULL-TIME STUDENTS.
C  AGE4(3000) . (INTEGER) AGES OF NON-RETURNING PART-TIME STUDENTS.
C  AGE1K,AGE2K,
C  AGE3K,AGE4K  (INTEGER) NUMBER OF STUDENTS IN EACH AGE CATEGORY.
C  QTR2 . . . . (CHAR)    2ND QUARTER HEADER (FALL,WINTER,SPRING).
C  RETHRS . . . (INTEGER) TOTAL CREDIT HOURS (RETURNING STUDENTS).
C  NRHRS  . . . (INTEGER) TOTAL CREDIT HOURS (NON-RETURNING STUDENTS).
C  RFTES  . . . (INTEGER) NO. OF FTES (RETURNING STUDENTS).
C  NRFTES . . . (INTEGER) NO. OF FTES (NON-RETURNING STUDENTS).
C  QTR1A  . . . (CHAR)    1ST QUARTER HEADER (FALL,WINTER,SPRING).
C  QTR2YR . . . (INTEGER) 2ND QUARTER YEAR.
C  SUM  . . . . (REAL)    TEMPORARY SUMMING VARIABLE.
C  J, K . . . . (INTEGER) LOOP CONTROL VARIABLES.
C
C
C  DECLARATIONS:
C
      CHARACTER CAMPUS,FPA,DAY
      CHARACTER*2 QTR1
      CHARACTER*3 REGION(7),PLACE
      CHARACTER*6 QTR1A,QTR2
      CHARACTER*23 LABEL1(29),LABEL2(17),LABEL3(32)
      INTEGER SSN1,SSN2,SEX,AWARD,CURRIC,RACE,STATUS,MONTH,YEAR
      INTEGER TABLE1(29,4),TABLE2(17,4),TABLE3(32,4),TABLE4(32,4)
      INTEGER RETURN,NORET,SSAN(4000),SSN2SZ,CODE(30),COLLEG
      INTEGER AGE1(1000),AGE2(3000),AGE3(1000),AGE4(3000),COUNT,AGE
      INTEGER AGE1K,AGE2K,AGE3K,AGE4K,J,K,QTR1YR,QTR2YR
      INTEGER HRS,RETHRS,NRHRS,RFTES,NRFTES
      REAL SUM
      LOGICAL RETFLG
C
C  DATA:
C
      DATA REGION(1),REGION(2),REGION(3),REGION(4),REGION(5),REGION(6),
```

```
     1REGION(7)/
     2'002','015','180','032','039','054','062'/
C      002=ALBEMARLE  180=CHARLOTTESVILLE  032=FLUVANNA  062=NELSON
C      054=LOUISA     015=BUCKINGHAM       039=GREENE
C
      DATA CODE(1),CODE(2),CODE(3),CODE(4),CODE(5),CODE(6),CODE(7),
     1CODE(8),CODE(9),CODE(10),CODE(11),CODE(12),CODE(13),CODE(14),
     2CODE(15),CODE(16),CODE(17),CODE(18),CODE(19),CODE(20),CODE(21),
     3CODE(22),CODE(23),CODE(24),CODE(25),CODE(26),CODE(27),CODE(28),
     4CODE(29),CODE(30)/
     5213,625,529,699,648,880,203,176,217,234,981,212,251,156,464,181,
     6276,597,294,838,221,921,218,922,927,940,948,190,991,463/
C     213=BUS. ADMIN.     981=ELECTRONICS     221=CAREER STUDIES
C     625=EDUCATION       212=MANAGEMENT      921=DRAFT & DESIGN
C     529=FINE ARTS       251=MARKETING       218=CLERICAL STUDIES
C     699=GEN. STUDIES    156=NURSING         922=DRAFTING
C     648=LIB. ARTS       464=POLICE SCIENCE  927=DRAFT DESIGN
C     880=SCIENCE         181=RESP. THERAPY   940=ELEC./ELECTRONICS
C     203=ACCOUNTING      276=SECR. SCIENCE   948=ELEC. SERVICING
C     176=COMM. SOC. SVC. 597=ARTS & CRAFTS   190=HEALTH TECHNOLOGY
C     217=COMP. PROG.     294=OFFICE SYS/TECH 991=INDUSTRIAL MGT.
C     234=COMPUTER INFO.  838=SCIENCE LAB.    463=LAW ENFORCEMENT
C     BE CERTAIN ALL CURRICULA ARE INCLUDED IN THESE CODES!
C
      DATA LABEL1(1),LABEL1(2),LABEL1(3),LABEL1(4),LABEL1(5),LABEL1(6),
     1LABEL1(7),LABEL1(8),LABEL1(9),LABEL1(10)/
     2'MALE                ','FEMALE              ',
     3'WHITE               ','BLACK               ',
     4'AMERICAN INDIAN     ','ASIAN/PACIFIC       ',
     5'HISPANIC            ','OTHER               ',
     6'MEDIAN AGE          ','MEAN AGE            '/
      DATA LABEL1(11),LABEL1(12),LABEL1(13),LABEL1(14),LABEL1(15),
     1LABEL1(16),LABEL1(17),LABEL1(18),LABEL1(19),LABEL1(20)/
     2'MODE AGE            ','UNDER 18            ',
     3'18-21               ','22-24               ',
     4'25-34               ','35-44               ',
     5'45-59               ','OVER 60             ',
     6'ALBEMARLE           ','BUCKINGHAM          '/
      DATA LABEL1(21),LABEL1(22),LABEL1(23),LABEL1(24),LABEL1(25),
     1LABEL1(26),LABEL1(27),LABEL1(28),LABEL1(29)/
     2'CHARLOTTESVILLE     ','FLUVANNA            ',
     3'GREENE              ','LOUISA              ',
     4'NELSON              ','TOTAL IN-DISTRICT   ',
     5'OUT-OF-DISTRICT     ','OUT-OF-STATE        ',
     6'TOTAL               '/
C
      DATA LABEL2(1),LABEL2(2),LABEL2(3),LABEL2(4),LABEL2(5),LABEL2(6),
     1LABEL2(7),LABEL2(8),LABEL2(9),LABEL2(10)/
     2'NEW                 ','RETURNING           ',
     3'DAY                 ','EVENING             ',
     4'ON-CAMPUS           ','OFF-CAMPUS          ',
     5'COLLEGE TRANSFER    ','OCCUP./TECHNICAL    ',
```

```
     6'DEVELOPMENTAL          ','UNCLASSIFIED          '/
      DATA LABEL2(11),LABEL2(12),LABEL2(13),LABEL2(14),LABEL2(15),
     1LABEL2(16),LABEL2(17)/
     2'A.A./A.S.              ','A.A.S.                ',
     3'DIPLOMA                ','CERTIFICATE           ',
     4'DEVELOPMENTAL          ','UNCLASSIFIED          ',
     5'TOTAL                  '/
C
C    LABELS MUST MATCH CURRICULA--LABEL3(X)=CODE(X)!
      DATA LABEL3(1),LABEL3(2),LABEL3(3),LABEL3(4),LABEL3(5),LABEL3(6),
     1LABEL3(7),LABEL3(8),LABEL3(9),LABEL3(10),LABEL3(11)/
     2'BUSINESS ADMIN.        ','EDUCATION             ',
     3'FINE ARTS              ','GENERAL STUDIES       ',
     4'LIBERAL ARTS           ','SCIENCE               ',
     5'ACCOUNTING             ','COMM. SOCIAL SERVICES ',
     6'COMPUTER PROG.         ','COMPUTER INFO. SYS.   ',
     7'ELECTRONICS            '/
      DATA LABEL3(12),LABEL3(13),LABEL3(14),LABEL3(15),LABEL3(16),
     1LABEL3(17),LABEL3(18),LABEL3(19),LABEL3(20),LABEL3(21)/
     2'MANAGEMENT             ','MARKETING             ',
     3'NURSING                ','POLICE SCIENCE        ',
     4'RESP. THERAPY          ','SECR. SCIENCE         ',
     5'ARTS/CRAFTS            ','OFFICE SYS/TECH       ',
     6'SCIENCE LAB.           ','CAREER STUDIES        '/
      DATA LABEL3(22),LABEL3(23),LABEL3(24),LABEL3(25),LABEL3(26),
     1LABEL3(27),LABEL3(28),LABEL3(29),LABEL3(30),LABEL3(31),
     2LABEL3(32)/
     3'DRAFT & DESIGN         ','CLERICAL STUDIES      ',
     4'DRAFTING               ','DRAFT DESIGN          ',
     5'ELEC./ELEC.            ','ELEC. SERVICING       ',
     6'HEALTH TECHNOLOGY      ','INDUSTRIAL MGT.       ',
     7'LAW ENFORCEMENT        ','OTHER                 ',
     8'TOTAL                  '/
C
C
C  INITIALIZE VARIABLES:
C
      RETURN=0
      NORET=0
      AGE1K=0
      AGE2K=0
      AGE3K=0
      AGE4K=0
      RETHRS=0
      NRHRS=0
      DO 10 K=1,29
       DO 10 J=1,4
        TABLE1(K,J)=0
   10 CONTINUE
      DO 15 K=1,17
       DO 15 J=1,4
        TABLE2(K,J)=0
```

```
   15 CONTINUE
      DO 20 K=1,29
       DO 20 J=1,4
        TABLE3(K,J)=0
        TABLE4(K,J)=0
   20 CONTINUE
      DO 25 K=1,4000
       SSAN(K)=0
       IF (K.LE.1000) THEN
        AGE1(K)=0
        AGE3(K)=0
       ENDIF
       IF (K.LE.3000) THEN
        AGE2(K)=0
        AGE4(K)=0
       ENDIF
   25 CONTINUE
C
C  READ ALL STUDENT SOCIAL SECURITY NUMBERS FOR SECOND QUARTER:
C
      K=1
      OPEN(9)
   30 READ(9,800,END=35) SSN2,COLLEG
      IF (COLLEG.NE.282) GO TO 30
       SSAN(K)=SSN2
       K=K+1
       GO TO 30
   35 CONTINUE
      CLOSE(9)
C
C  SORT ALL SECOND QUARTER SOCIAL SECURITY NUMBERS (SHELL SHORT):
C
      SSN2SZ=K-1
      CALL SORT(SSN2SZ,SSAN)
C
C  READ A STUDENT RECORD FROM FIRST QUARTER.
C
      COUNT=0
      OPEN(8)
   40 READ(8,805,END=95) SSN1,COLLEG,CAMPUS,SEX,PLACE,AWARD,
     ,CURRIC,RACE,STATUS,FPA,HRS,QTR1,QTR1YR,MONTH,YEAR,DAY
      IF (COLLEG.NE.282) GO TO 40
      COUNT=COUNT+1
C
C  DETERMINE QUARTER AND YEAR:
C
      IF (QTR1.EQ.'FA') THEN
       QTR1A = '  FALL'
       QTR2 = 'WINTER'
       QTR2YR = QTR1YR+1
      ELSE
       QTR1A = 'WINTER'
```

```
      QTR2 = 'SPRING'
      QTR2YR = QTR1YR
     ENDIF
C
C  USE BINARY SEARCH TO MATCH SOCIAL SECURITY NUMBERS FROM FIRST AND
C  SECOND QUARTER TO DETERMINE RETURNING/NON-RETURNING STATUS:
C
     CALL SEARCH(RETFLG,SSN2SZ,SSN1,SSAN)
C
C  DETERMINE STUDENT'S AGE (AS OF JANUARY 1ST OF CURRENT YEAR):
C
     AGE=QTR2YR-YEAR-1
     IF (RETFLG.AND.FPA.EQ.'F') THEN
      AGE1K=AGE1K+1
      AGE1(AGE1K)=AGE
     ELSE IF (RETFLG.AND.FPA.EQ.'P') THEN
      AGE2K=AGE2K+1
      AGE2(AGE2K)=AGE
     ELSE IF ((FPA.EQ.'F').AND. .NOT.RETFLG) THEN
      AGE3K=AGE3K+1
      AGE3(AGE3K)=AGE
     ELSE IF ((FPA.EQ.'P').AND. .NOT.RETFLG) THEN
      AGE4K=AGE4K+1
      AGE4(AGE4K)=AGE
     ELSE
     ENDIF
C
C  ADD THIS TO TOTAL NUMBER OF RETURNING AND NON-RETURNING STUDENTS
C  AND DETERMINE STUDENT CREDIT HOURS
C
     IF (RETFLG) THEN
      RETURN = RETURN +1
      RETHRS = RETHRS + HRS
     ELSE
      NORET = NORET +1
      NRHRS = NRHRS + HRS
     ENDIF
C
C  BEGIN CONSTRUCTING TABLE 1.  START BY ASSIGNING COLUMN INDEX:
C    K=1  (RETURNING FULL-TIME)    K=3  (NON-RETURNING FULL-TIME)
C    K=2  (RETURNING PART-TIME)    K=4  (NON-RETURNING PART-TIME)
C
     IF (RETFLG) THEN
      IF (FPA.EQ.'F') THEN
       K=1
      ELSE
       K=2
      ENDIF
     ELSE
      IF (FPA.EQ.'F') THEN
       K=3
      ELSE
```

```
        K=4
       ENDIF
      ENDIF
C
C  SEX:
C
       IF (SEX.EQ.1) THEN
        TABLE1(1,K) = TABLE1(1,K) +1
       ELSE
        TABLE1(2,K) = TABLE1(2,K) +1
       ENDIF
C
C  RACE:
C
      DO 50 J=1,6
       IF (RACE.EQ.J) TABLE1(J+2,K) = TABLE1(J+2,K) +1
   50 CONTINUE
C
C  AGE:
C
      IF (AGE.LT.18) TABLE1(12,K) = TABLE1(12,K) +1
      IF (AGE.GE.18.AND.AGE.LT.22) TABLE1(13,K) = TABLE1(13,K) +1
      IF (AGE.GE.22.AND.AGE.LT.25) TABLE1(14,K) = TABLE1(14,K) +1
      IF (AGE.GE.25.AND.AGE.LT.35) TABLE1(15,K) = TABLE1(15,K) +1
      IF (AGE.GE.35.AND.AGE.LT.45) TABLE1(16,K) = TABLE1(16,K) +1
      IF (AGE.GE.45.AND.AGE.LT.60) TABLE1(17,K) = TABLE1(17,K) +1
      IF (AGE.GE.60) TABLE1(18,K) = TABLE1(18,K) +1
C
C  LOCALITY:
C
      DO 60 J=1,7
       IF (PLACE.EQ.REGION(J)) THEN
        TABLE1(J+18,K) = TABLE1(J+18,K) +1
        GO TO 65
       ENDIF
   60 CONTINUE
      IF (PLACE.GT.'000'.AND.PLACE.LT.'900') THEN
       TABLE1(27,K) = TABLE1(27,K) +1
      ELSE
       TABLE1(28,K) = TABLE1(28,K) +1
      ENDIF
   65 CONTINUE
C
C  START CONSTRUCTING TABLE 2.  COLUMN INDEX IS THE SAME AS TABLE 1.
C
C  NEW OR RETURNING STUDENT:
C
      IF (STATUS.EQ.1.OR.STATUS.EQ.3) THEN
       TABLE2(1,K) = TABLE2(1,K) +1
      ELSE
       TABLE2(2,K) = TABLE2(2,K) +1
      ENDIF
```

```
C
C  DAY OR EVENING STUDENT:
C
      IF (DAY.EQ.'E') THEN
       TABLE2(4,K) = TABLE2(4,K) +1
      ELSE
       TABLE2(3,K) = TABLE2(3,K) +1
      ENDIF
C
C  ON- OR OFF-CAMPUS:
C
      IF (CAMPUS.EQ.'A') THEN
       TABLE2(5,K) = TABLE2(5,K) +1
      ELSE
       TABLE2(6,K) = TABLE2(6,K) +1
      ENDIF
C
C  TYPE OF PROGRAM:
C
      IF (AWARD.EQ.1.OR.AWARD.EQ.7) THEN
       TABLE2(7,K) = TABLE2(7,K) +1
      ELSE IF (AWARD.EQ.2) THEN
       TABLE2(9,K) = TABLE2(9,K) +1
      ELSE IF (AWARD.EQ.5) THEN
       TABLE2(10,K) = TABLE2(10,K) +1
      ELSE
       TABLE2(8,K) = TABLE2(8,K) +1
      ENDIF
C
C  TYPE OF D  REE:
C
      IF (AWARD.EQ.1.OR.AWARD.EQ.7) THEN
       TABLE2(11,K) = TABLE2(11,K) +1
      ELSE IF (AWARD.EQ.2) THEN
       TABLE2(15,K) = TABLE2(15,K) +1
      ELSE IF (AWARD.EQ.5) THEN
       TABLE2(16,K) = TABLE2(16,K) +1
      ELSE IF (AWARD.EQ.6.OR.AWARD.EQ.9) THEN
       TABLE2(12,K) = TABLE2(12,K) +1
      ELSE IF (AWARD.EQ.3.OR.AWARD.EQ.8) THEN
       TABLE2(13,K) = TABLE2(13,K) +1
      ELSE
       TABLE2(14,K) = TABLE2(14,K) +1
      ENDIF
C
C  START CONSTRUCTING TABLE 3.  COLUMN INDEX IS SAME AS TABLES 1-2.
C
      IF (AWARD.NE.2.AND.AWARD.NE.5) THEN
       DO 70, J=1,30
        IF (CURRIC.EQ.CODE(J)) THEN
         TABLE3(J,K) = TABLE3(J,K) +1
         GO TO 75
```

```
      ENDIF
   70 CONTINUE
      TABLE3(31,K) = TABLE3(31,K) +1
   75 CONTINUE
     ENDIF
C
C  BEGIN CONSTRUCTING TABLE 4.  START BY ASSIGNING COLUMN INDEX:
C    K=1 (RETURNING FRESHMAN)     K=3 (NON-RETURNING FRESHMAN)
C    K=2 (RETURNING SOPHOMORE)    K=4 (NON-RETURNING SOPHOMORE).
C
      IF (RETFLG) THEN
       IF (AWARD.EQ.1.OR.AWARD.EQ.3.OR.AWARD.EQ.4.OR.AWARD.EQ.6) THEN
        K=1
       ELSE IF (AWARD.GE.7) THEN
        K=2
       ENDIF
      ELSE
       IF (AWARD.EQ.1.OR.AWARD.EQ.3.OR.AWARD.EQ.4.OR.AWARD.EQ.6) THEN
        K=3
       ELSE IF (AWARD.GE.7) THEN
        K=4
       ENDIF
      ENDIF
C
C  MATCH STUDENT'S CURRICULUM WITH CODE LIST:
C
     IF (AWARD.NE.2.AND.AWARD.NE.5) THEN
      DO 80 J=1,30
       IF (CURRIC.EQ.CODE(J)) THEN
        TABLE4(J,K) = TABLE4(J,K) +1
        GO TO 85
       ENDIF
   80 CONTINUE
      TABLE4(31,K) = TABLE4(31,K) +1
   85 CONTINUE
     ENDIF
C
C  READ THE NEXT STUDENT RECORD
C
     GO TO 40
C
C  ALL STUDENT RECORDS HAVE BEEN READ.
C
   95 CONTINUE
     CLOSE(8)
C
C  SORT THE AGE LISTS:
C
     CALL SORT(AGE1K,AGE1)
     CALL SORT(AGE2K,AGE2)
     CALL SORT(AGE3K,AGE3)
     CALL SORT(AGE4K,AGE4)
```

```
C
C  DETERMINE MEAN, MEDIAN, AND MODE AGES:
C
      TABLE1(9,1)=MEDIAN(AGE1,AGE1K)
      TABLE1(9,2)=MEDIAN(AGE2,AGE2K)
      TABLE1(9,3)=MEDIAN(AGE3,AGE3K)
      TABLE1(9,4)=MEDIAN(AGE4,AGE4K)
      TABLE1(10,1)=MEAN(AGE1,AGE1K)
      TABLE1(10,2)=MEAN(AGE2,AGE2K)
      TABLE1(10,3)=MEAN(AGE3,AGE3K)
      TABLE1(10,4)=MEAN(AGE4,AGE4K)
      TABLE1(11,1)=MODE(AGE1,AGE1K)
      TABLE1(11,2)=MODE(AGE2,AGE2K)
      TABLE1(11,3)=MODE(AGE3,AGE3K)
      TABLE1(11,4)=MODE(AGE4,AGE4K)
C
C  DETERMINE FTES FOR RETURNING AND NON-RETURNING STUDENTS
C
      SUM = RETHRS/15
      RFTES = NINT(SUM)
      SUM = NRHRS/15
      NRFTES = NINT(SUM)
C
C  DETERMINE TABLE TOTALS AND SUBTOTALS:
C
      DO 100 K=19,25
       DO 100 J=1,4
        TABLE1(26,J)=TABLE1(26,J)+TABLE1(K,J)
  100 CONTINUE
      DO 105 K=1,4
       TABLE1(29,K)=TABLE1(1,K)+TABLE1(2,K)
       TABLE2(17,K)=TABLE2(1,K)+TABLE2(2,K)
  105 CONTINUE
      DO 110 K=1,31
       DO 110 J=1,4
        TABLE3(32,J)=TABLE3(32,J)+TABLE3(K,J)
        TABLE4(32,J)=TABLE4(32,J)+TABLE4(K,J)
  110 CONTINUE
C
C  PRINT TABLE 1:
C
      WRITE(6,810) 1
      WRITE(6,840) QTR1A,QTR1YR,QTR2,QTR2YR
      WRITE(6,815)
      WRITE(6,820)
      WRITE(6,825)
      DO 115 K=1,29
       WRITE(6,830) LABEL1(K),(TABLE1(K,J),J=1,4)
  115 CONTINUE
C
C  PRINT TABLE 2:
C
```

```
      WRITE(6,810) 2
      WRITE(6,840) QTR1A,QTR1YR,QTR2,QTR2YR
      WRITE(6,815)
      WRITE(6,820)
      WRITE(6,825)
      DO 120 K=1,17
       WRITE(6,830) LABEL2(K),(TABLE2(K,J),J=1,4)
  120 CONTINUE
      WRITE(6,845) RFTES,NRFTES
C
C  PRINT TABLE 3:
C
      WRITE(6,810) 3
      WRITE(6,840) QTR1A,QTR1YR,QTR2,QTR2YR
      WRITE(6,815)
      WRITE(6,820)
      WRITE(6,825)
      DO 125 K=1,32
       WRITE(6,830) LABEL3(K),(TABLE3(K,J),J=1,4)
  125 CONTINUE
C
C  PRINT TABLE 4:
C
      WRITE(6,810) 4
      WRITE(6,840) QTR1A,QTR1YR,QTR2,QTR2YR
      WRITE(6,815)
      WRITE(6,835)
      WRITE(6,825)
      DO 130 K=1,32
       WRITE(6,830) LABEL3(K),(TABLE4(K,J),J=1,4)
  130 CONTINUE
C
C  FORMAT SPECIFICATIONS
C
  800 FORMAT(I9,I3)
  805 FORMAT(I9,I3,A1,T29,I1,A3,I1,I3,T43,I1,I1,A1,I2,T138,
     1A2,I2,T51,I2,T55,I2,T59,A1)
  810 FORMAT('1',42X,'TABLE ',I1)
  815 FORMAT(28X,'RETURNING                NON-RETURNING')
  820 FORMAT(22X,2('FULL-TIME  PART-TIME',6X))
  825 FORMAT(21X,2(2('       NO.',1X),4X)/)
  830 FORMAT(1X,A19,4(2I11,4X))
  835 FORMAT(22X,2(' FRESHMAN   SOPHMORE',6X))
  840 FORMAT(32X,A6,1X,'19',I2,' TO ',A6,1X,'19',I2//)
  845 FORMAT('0','RFTES',26X,I5,21X,I5)
C
      END
C
```

```
C  ***************************************************************************
C
      SUBROUTINE SORT(TOTAL,LIST)
C
C     SHELL SORT FOR INTEGERS
C
C     THE FOLLOWING VARIABLES ARE PASSED TO THE SUBROUTINE FROM THE
C     MAIN PROGRAM:
C
C     TOTAL . . . TOTAL NUMBER OF ITEMS IN THE LIST.
C     LIST  . . . THE LIST (ARRAY) TO BE SORTEED.
C
C     THE FOLLOWING LOCAL VARIABLES ARE USED IN THE SUBROUTINE:
C
C     TMP . . . . NUMBER OF PASSES STILL TO BE PERFORMED.
C     H . . . . . HOLDING VARIABLE FOR CELL EXCHANGE.
C     T . . . . . INDEX FOR EXCHANGING CELL CONTENTS.
C     J,K . . . . LOOP CONTROL VARIABLES.
C
      INTEGER TOTAL,LIST(TOTAL),TMP,J,K,H,T
      TMP=TOTAL
C     LOOP TO PERFORM PASSES UNTIL TMP=0.
  100 TMP=TMP/2
      IF (TMP.EQ.0) GO TO 125
C      NESTED LOOP TO PERFORM PASS FOR CURRENT VALUE OF TMP.
      DO 120 K=1,TMP
       DO 115 J=K,TOTAL-TMP,TMP
        T=J
        H=LIST(J+TMP)
  105    IF (H.GE.LIST(T)) GO TO 110
C        SHIFT CONTENTS OF LIST(T) WITH ALL PREVIOUS MEMORY CELLS.
        LIST(T+TMP)=LIST(T)
        T=T-TMP
        IF (T.GE.1) GO TO 105
  110    LIST(T+TMP)=H
  115   CONTINUE
  120  CONTINUE
      GO TO 100
  125 CONTINUE
     END
C
C
      SUBROUTINE SEARCH(FOUND,TOTAL,ITEM,LIST)
C
C     BINARY SEARCH FOR A SORTED LIST OF INTEGERS.
C
      THE FOLLOWING VARIABLES ARE PASSED TO THE SUBROUTINE FROM THE
C     MAIN PROGRAM:
C
C     FOUND . . . BOOLEAN VARIABLE INDICATING ITEM IS IN THE LIST.
C     TOTAL . . . TOTAL NUMBER OF ITEMS IN THE LIST TO BE SEARCHED.
C     ITEM  . . . ITEM BEING SEARCHED FOR IN THE LIST.
```

```
C     LIST  . . . THE LIST (ARRAY) TO BE SEARCHED.
C
C     THE FOLLOWING LOCAL VARIABLES ARE USED IN THE SUBROUTINE:
C
C     FIRST . . . INDEX FOR LOWER LIMIT OF THE SEARCH RANGE.
C     MIDDLE  . . INDEX FOR MIDDLE ITEM IN THE SEARCH RANGE.
C     LAST  . . . INDEX FOR UPPER LIMIT OF THE SEARCH RANGE.
C
      INTEGER TOTAL,ITEM,LIST(TOTAL),FIRST,LAST,MIDDLE
      LOGICAL FOUND
      FOUND=.FALSE.
      FIRST=1
      LAST=TOTAL
  100 IF ((FIRST.LE.LAST).AND. .NOT.FOUND) THEN
       MIDDLE=(FIRST+LAST)/2
       IF (ITEM.EQ.LIST(MIDDLE)) THEN
        FOUND=.TRUE.
       ELSE IF (ITEM.LT.LIST(MIDDLE)) THEN
        LAST=MIDDLE-1
       ELSE
        FIRST=MIDDLE+1
       ENDIF
       GO TO 100
      ENDIF
     END
C
C
     FUNCTION MEDIAN(LIST,COUNT)
C
C     DETERMINES MEDIAN AGE FROM A GIVEN LIST. THE AGE LIST MUST BE
C     SORTED BEFORE USING THIS FUNCTION.
C
C     THE FOLLOWING VARIABLES ARE PASSED TO THE FUNCTION FROM THE MAIN
C     PROGRAM:
C
C     LIST  . . THE LIST (ARRAY) OF AGES.
C     COUNT . . THE NUMBER OF ITEMS (AGES) IN THE AGE LIST.
C
C     THE FOLLOWING LOCAL VARIABLES ARE USED IN THE FUNCTION:
C
C     SUM . . . SUM OF ALL AGES (REAL).
C     X,Y . . . TEMPORARY VARIABLES (REAL).
C
      INTEGER COUNT,LIST(COUNT)
      REAL X,Y
C
      IF (MOD(COUNT,2).EQ.0) THEN
       X=LIST(COUNT/2)
       Y=LIST(COUNT/2+1)
       MEDIAN=NINT((X+Y)/2)
      ELSE
       MEDIAN=LIST(COUNT/2+1)
```

```
      ENDIF
C
C
      FUNCTION MEAN(LIST,COUNT)
C
C     DETERMINES MEAN AGE FROM A GIVEN LIST.
C
C     THE FOLLOWING VARIABLES ARE PASSED TO THE FUNCTION FROM THE MAIN
C     PROGRAM:
C
C     LIST  . . THE LIST (ARRAY) OF AGES..
C     COUNT . . THE NUMBER OF ITEMS (AGES) IN THE AGE LIST.
C
C     THE FOLLOWING LOCAL VARIABLES ARE USED IN THE FUNCTION:
C
C     SUM . . . SUM OF ALL AGES (REAL).
C     K . . . . LOOP CONTROL VARIABLE.
C
      INTEGER COUNT,LIST(COUNT),K
      REAL SUM
C
      IF (COUNT.EQ.0) THEN
       MEAN=0
       GO TO 110
      ENDIF
      SUM=0
      DO 100 K=1,COUNT
       SUM=SUM+LIST(K)
  100 CONTINUE
      SUM=SUM/COUNT
      MEAN=NINT(SUM)
  110 CONTINUE
      END
C
C
      FUNCTION MODE(LIST,COUNT)
C
C     DETERMINES MODE AGE FROM A GIVEN LIST. IF THERE IS MORE THAN
C     ONE MODE AGE, THE YOUNGEST WILL BE REPORTED AS THE MODE AGE.
C     THE AGE LIST MUST BE SORTED BEFORE USING THIS FUNCTION.
C
C     THE FOLLOWING VARIABLES ARE PASSED TO THE FUNCTION FROM THE MAIN
C     PROGRAM:
C
C     LIST  . . THE LIST (ARRAY) OF AGES.
C     COUNT . . THE NUMBER OF ITEMS (AGES) IN THE AGE LIST.
C
C     THE FOLLOWING LOCAL VARIABLES ARE USED IN THE FUNCTION:
C
C     CNT . . . COUNT OF THE NUMBER OF SAME AGES.
C     TCOUNT  . TEMPORARY COUNT OF LARGEST NUMBER OF SAME AGES.
C     TMODE . . TEMPORARY MODE AGE.
```

```
C      K . . . . LOOP CONTROL VARIABLE.
C
       INTEGER COUNT,LIST(COUNT),TCOUNT,TMODE,CNT,K
C
       TMODE=LIST(1)
       TCOUNT=0
       K=0
       CNT=1
  940  CONTINUE
       K=K+1
       IF (K.GE.COUNT) GO TO 950
       IF (LIST(K).EQ.LIST(K+1)) THEN
        CNT=CNT+1
        GO TO 940
       ELSE
        IF (CNT.GT.TCOUNT) THEN
         TCOUNT=CNT
         CNT=1
         TMODE=LIST(K)
        ENDIF
        GO TO 940
       ENDIF
  950  CONTINUE
       MODE=TMODE
      END
//GO.FT08F001 DD DSN=SOAD.ASC.MSTR.AKT.Y1988WIE.STUD,
//       DISP=(OLD,KEEP),UNIT=TAPE,LABEL=(1,SL,,IN),
//       DCB=(RECFM=FB,LRECL=150,BLKSIZE=32700)
//GO.FT09F001 DD DSN=SOAD.ASC.MSTR.AKT.Y1988SPE.STUD,
//       DISP=(OLD,KEEP),UNIT=TAPE,LABEL=(1,SL,IN),
//       DCB=(RECFM=FB,LRECL=150,BLKSIZE=32700)
```

APPENDIX B

SAMPLE OUTPUT FROM FORTRAN PROGRAM FOR RETENTION

TABLE 1
WINTER 1988 TO SPRING 1988

	RETURNING		NON-RETURNING	
	FULL-TIME NO.	PART-TIME NO.	FULL-TIME NO.	PART-TIME NO.
MALE	267	504	39	598
FEMALE	333	974	42	967
WHITE	536	1331	64	1396
BLACK	38	112	17	146
AMERICAN INDIAN	3	2	0	1
ASIAN/PACIFIC	13	19	0	13
HISPANIC	8	11	0	8
OTHER	2	3	0	1
MEDIAN AGE	20	31	20	31
MEAN AGE	23	33	22	33
MODE AGE	20	33	25	33
UNDER 18	3	12	2	14
18-21	393	203	50	181
22-24	69	174	14	222
25-34	95	503	11	535
35-44	30	379	2	352
45-59		150	2	219
OVER 60	2	57	0	42
ALBEMARLE	219	551	27	639
BUCKINGHAM	6	18	2	13
CHARLOTTESVILLE	186	495	29	469
FLUVANNA	23	65	5	64
GREENE	27	69	2	101
LOUISA	28	39	3	67
NELSON	22	60	2	49
TOTAL IN-DISTRICT	511	1297	70	1402
OUT-OF-DISTRICT	74	144	11	119
OUT-OF-STATE	15	37	0	44
TOTAL	600	1478	81	1565

TABLE 2
WINTER 1988 TO SPRING 1988

	RETURNING		NON-RETURNING	
	FULL-TIME NO.	PART-TIME NO.	FULL-TIME NO.	PART-TIME NO.
NEW	36	187	11	503
RETURNING	564	1291	70	1062
DAY	597	867	81	699
EVENING	3	611	0	866
ON-CAMPUS	600	1172	81	971
OFF-CAMPUS	0	306	0	594
COLLEGE TRANSFER	399	497	54	289
OCCUP./TECHNICAL	153	303	22	175
DEVELOPMENTAL	24	28	3	16
UNCLASSIFIED	24	650	2	1085
A.A./A.S.	399	497	54	289
A.A.S.	149	272	18	152
DIPLOMA	0	4	0	2
CERTIFICATE	4	27	4	21
DEVELOPMENTAL	24	28	3	16
UNCLASSIFIED	24	650	2	1085
TOTAL	600	1478	81	1565
FTES	1105		451	

TABLE 3
WINTER 1988 TO SPRING 1988

	RETURNING		NON-RETURNING	
	FULL-TIME NO.	PART-TIME NO.	FULL-TIME NO.	PART-TIME NO.
BUSINESS ADMIN.	119	107	12	55
EDUCATION	17	27	4	13
FINE ARTS	15	14	1	9
GENERAL STUDIES	71	214	13	141
LIBERAL ARTS	131	98	16	40
SCIENCE	46	37	8	31
ACCOUNTING	8	28	0	12
COMM. SOCIAL SERVIC	0	0	0	0
COMPUTER PROG.	16	43	1	29
COMPUTER INFO. SYS.	0	0	0	0
ELECTRONICS	16	21	2	22
MANAGEMENT	19	71	1	38
MARKETING	11	9	0	6
NURSING	28	70	3	14
POLICE SCIENCE	19	6	5	6
RESP. THERAPY	9	3	0	1
SECR. SCIENCE	11	8	2	20
ARTS/CRAFTS	0	3	0	1
OFFICE SYS/TECH	0	0	0	0
SCIENCE LAB.	3	3	0	1
CAREER STUDIES	2	17	2	13
DRAFT & DESIGN	9	10	4	3
CLERICAL STUDIES	1	1	0	2
DRAFTING	0	2	0	0
DRAFT DESIGN	0	4	0	2
ELEC./ELEC.	0	0	0	0
ELEC. SERVICING	1	1	1	2
HEALTH TECHNOLOGY	0	1	0	3
INDUSTRIAL MGT.	0	0	0	0
LAW ENFORCEMENT	0	2	0	0
OTHER	0	0	0	0
TOTAL	552	800	76	464

TABLE 4
WINTER 1988 TO SPRING 1988

	RETURNING		NON-RETURNING	
	FRESHMAN NO.	SOPHMORE NO.	FRESHMAN NO.	SOPHMORE NO.
BUSINESS ADMIN.	151	75	50	17
EDUCATION	26	18	16	1
FINE ARTS	20	9	8	2
GENERAL STUDIES	238	47	148	6
LIBERAL ARTS	171	58	47	9
SCIENCE	62	21	28	11
ACCOUNTING	28	8	8	4
COMM. SOCIAL SERVIC	0	0	0	0
COMPUTER PROG.	35	24	21	9
COMPUTER INFO. SYS.	0	0	0	0
ELECTRONICS	21	16	22	2
MANAGEMENT	49	41	22	17
MARKETING	12	8	6	0
NURSING	28	70	4	13
POLICE SCIENCE	19	6	8	3
RESP. THERAPY	9	3	1	0
SECR. SCIENCE	13	6	18	4
ARTS/CRAFTS	3	0	1	0
OFFICE SYS/TECH	0	0	0	0
SCIENCE LAB.	5	1	1	0
CAREER STUDIES	19	0	15	0
DRAFT & DESIGN	16	3	4	3
CLERICAL STUDIES	2	0	2	0
DRAFTING	2	0	1	0
DRAFT DESIGN	0	4	0	2
ELEC./ELEC.	0	0	0	0
ELEC. SERVICING	2	0	3	0
HEALTH TECHNOLOGY	1	0	3	0
INDUSTRIAL MGT.	0	0	0	0
LAW ENFORCEMENT	2	0	0	0
OTHER	0	0	0	0
TOTAL	934	418	437	103