Workshop 2B

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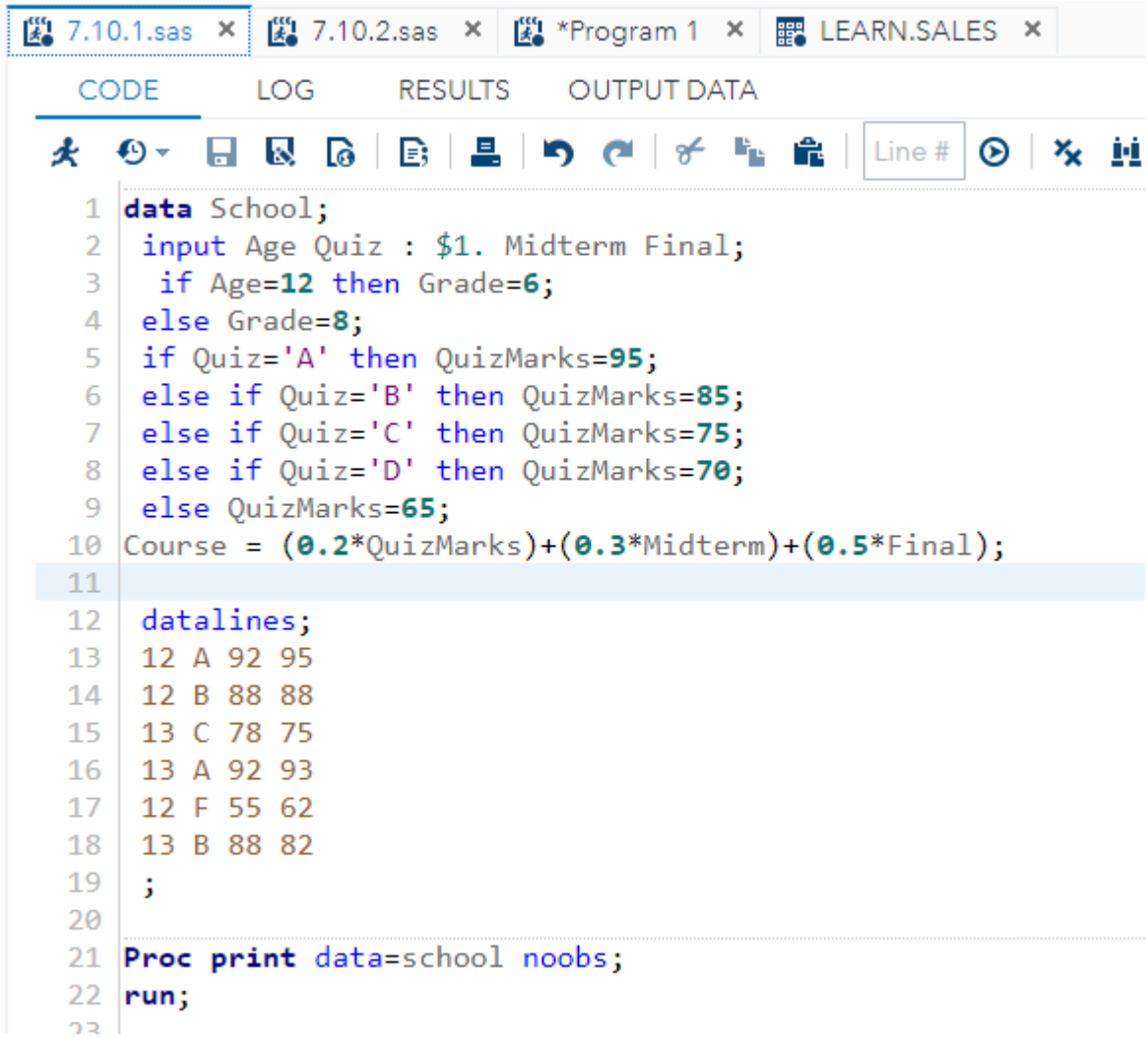
Section 7.10:

Problem 1:

Code:



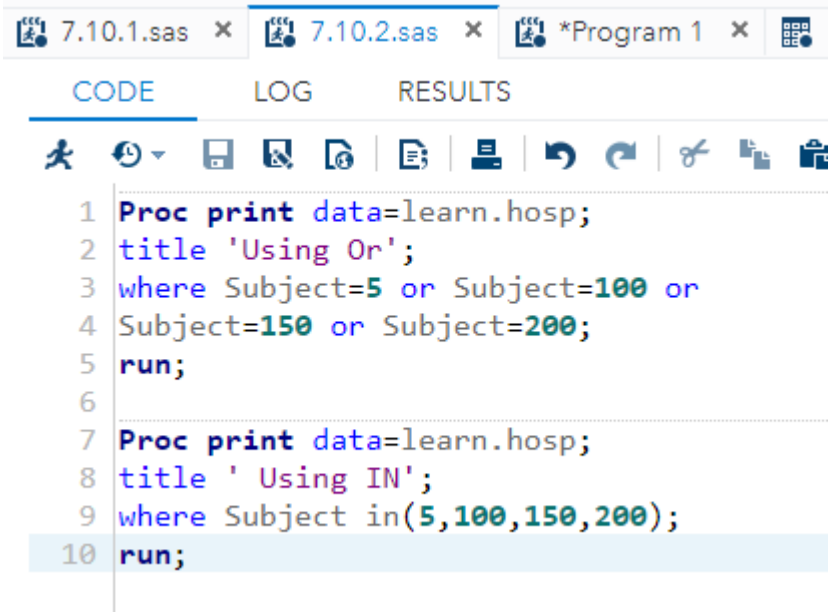

```
data School;
 input Age Quiz : $1. Midterm Final;
  if Age=12 then Grade=6;
 else Grade=8;
 if Quiz='A' then QuizMarks=95;
 else if Quiz='B' then QuizMarks=85;
 else if Quiz='C' then QuizMarks=75;
 else if Quiz='D' then QuizMarks=70;
 else QuizMarks=65;
Course = (0.2*QuizMarks)+(0.3*Midterm)+(0.5*Final);

 datalines;
 12 A 92 95
 12 B 88 88
 13 C 78 75
 13 A 92 93
 12 F 55 62
 13 B 88 82
 ;

Proc print data=school noobs;
run;
```

Result:

Age	Quiz	Midterm	Final	Grade	QuizMarks	Course
12	A	92	95	6	95	94.1
12	B	88	88	6	85	87.4
13	C	78	75	8	75	75.9
13	A	92	93	8	95	93.1
12	F	55	62	6	65	60.5
13	B	88	82	8	85	84.4

Problem 2:

Code:



Result:

Using Or

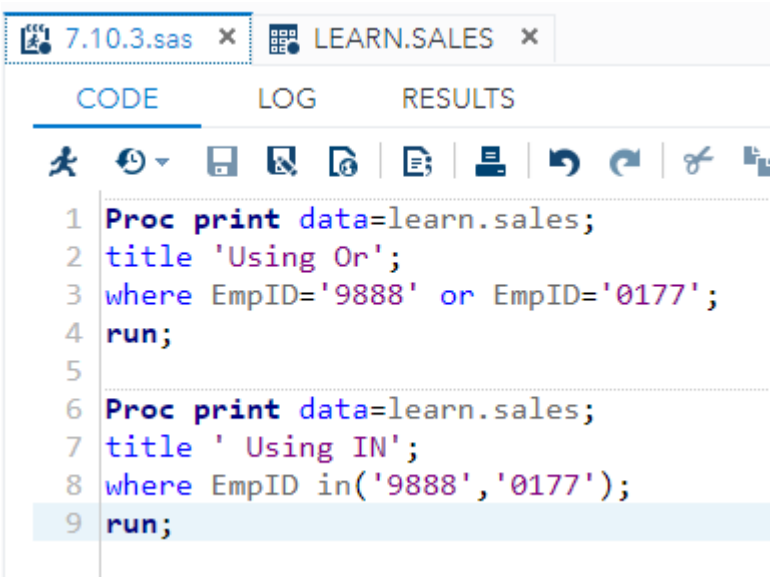
Obs	AdmitDate	quarter	DOB	DischrDate	Subject
5	08/03/2003	6	06/28/1928	08/12/2003	5
100	11/05/2004	11	09/10/1980	11/15/2004	100
150	03/31/2005	12	02/07/1923	04/11/2005	150
200	07/02/2004	10	09/25/1931	07/10/2004	200

Using IN

Obs	AdmitDate	quarter	DOB	DischrDate	Subject
5	08/03/2003	6	06/28/1928	08/12/2003	5
100	11/05/2004	11	09/10/1980	11/15/2004	100
150	03/31/2005	12	02/07/1923	04/11/2005	150
200	07/02/2004	10	09/25/1931	07/10/2004	200

Problem 3:

Code:



Result:

Using Or

Obs	EmpID	Name	Region	Customer	Item	Quantity	UnitCost	TotalSales
6	0177	Glenda Johnson	East	Food Unlimited	188X	100	6.99	699.0
7	0177	Glenda Johnson	East	Shop and Drop	144L	100	8.99	899.0
9	9888	Sharon Lu	West	Cost Cutter's	122	50	5.99	299.5
10	9888	Sharon Lu	West	Pet's are Us	100W	1000	1.99	1990.0
13	0177	Glenda Johnson	North	Minimart Inc.	777	5	10.50	52.5
14	0177	Glenda Johnson	East	Barco Corporation	733	2	10000.00	20000.0

Using IN

Obs	EmpID	Name	Region	Customer	Item	Quantity	UnitCost	TotalSales
6	0177	Glenda Johnson	East	Food Unlimited	188X	100	6.99	699.0
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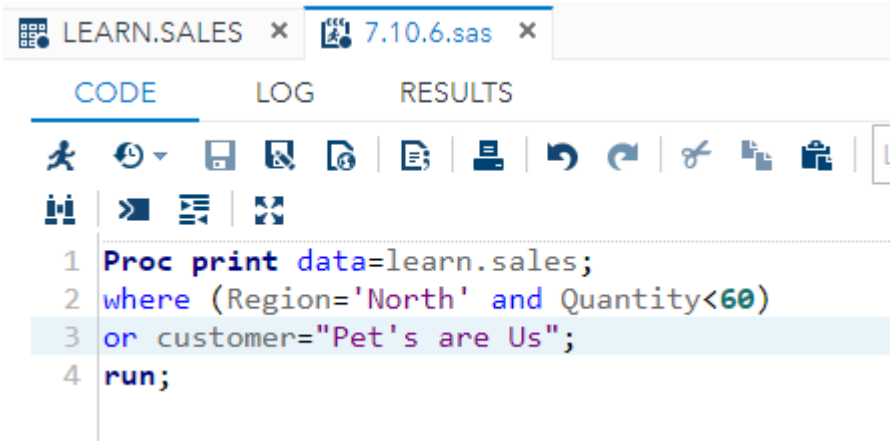
13	0177	Glenda Johnson	North	Minimart Inc.	777	5	10.50	52.5
14	0177	Glenda Johnson	East	Barco Corporation	733	2	10000.00	20000.0

Problem 6:

Code:

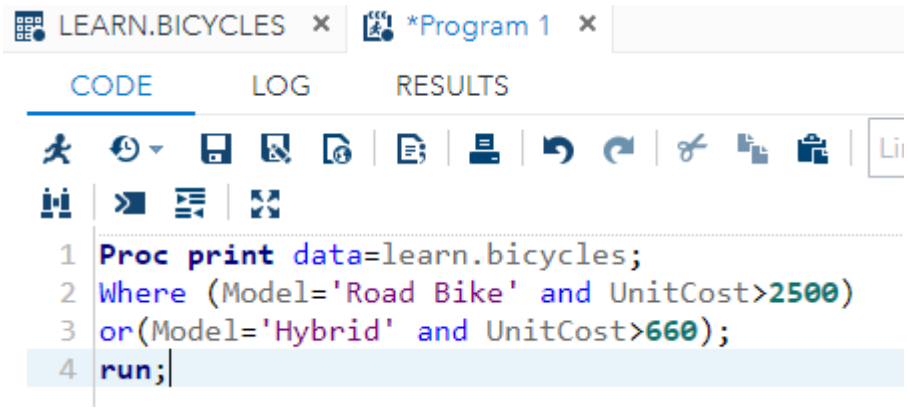


Result:

Obs	EmpID	Name	Region	Customer	Item	Quantity	UnitCost	TotalSales
1	1843	George Smith	North	Barco Corporation	144L	50	8.99	449.5
3	1843	George Smith	North	Minimart Inc.	188S	3	5199.00	15597.0
4	1843	George Smith	North	Barco Corporation	908X	1	5129.00	5129.0
10	9888	Sharon Lu	West	Pet's are Us	100W	1000	1.99	1990.0
13	0177	Glenda Johnson	North	Minimart Inc.	777	5	10.50	52.5
15	1843	George Smith	North	Minimart Inc.	188S	3	5199.00	15597.0

Problem 7:

Code:



Result:

Obs	Country	Model	Manuf	Units	UnitCost	TotalSales
7	France	Road Bike	Cannondale	900	$3,700	$3,330
14	United Kingdom	Hybrid	Cannondale	500	$880	$440
16	Italy	Hybrid	Trek	700	$690	$483
17	Italy	Road Bike	Trek	4500	$2,890	$13,005

Section 8.9:

Problem 1:

Code:

8.9.1.sas

CODE LOG RESULTS OUTPUT DATA

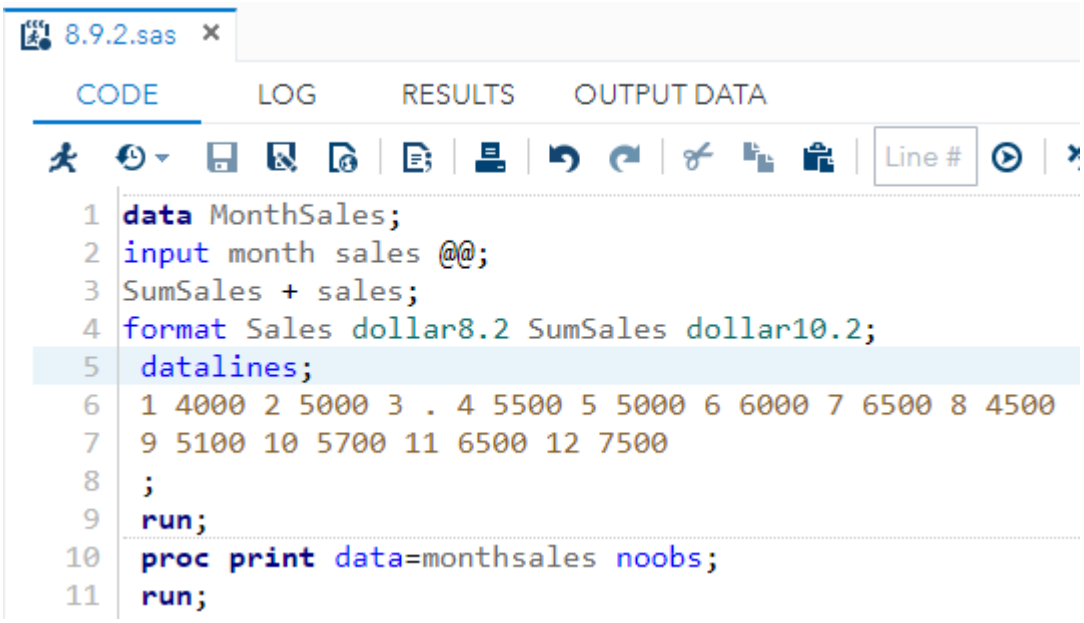
```
2  input ID : $3. Age Pulse SBP DBP;
3  label SBP = "Systolic Blood Pressure" DBP = "Diastolic Blood Pressure";
4   datalines;
5   001 23 68 120 80
6   002 55 72 188 96
7   003 78 82 200 100
8   004 18 58 110 70
9   005 43 52 120 82
10  006 37 74 150 98
11  007 . 82 140 100
12  ;
13 data newvitals;
14 set vitals;
15 if Age lt 50 and not missing(Age) then do;
16 if Pulse lt 70 then PulseGroup = 'Low ';
17 else PulseGroup = 'High';
18 if SBP lt 140 then SBPGroup = 'Low ';
19 else SBPGroup = 'High';
20 end;
21 else if Age ge 50 then do;
22 if Pulse lt 74 then PulseGroup = 'Low';
23 else PulseGroup = 'High';
24 if SBP lt 140 then SBPGroup = 'Low';
25 else SBPGroup = 'High';
26 end;
27 proc print data=newvitals noobs;
28 run;
```

Result:

ID	Age	Pulse	SBP	DBP	PulseGroup	SBPGroup
001	23	68	120	80	Low	Low
002	55	72	188	96	Low	High
003	78	82	200	100	High	High
004	18	58	110	70	Low	Low
005	43	52	120	82	Low	Low
006	37	74	150	98	High	High
007	.	82	140	100		

Problem 2:

Code:

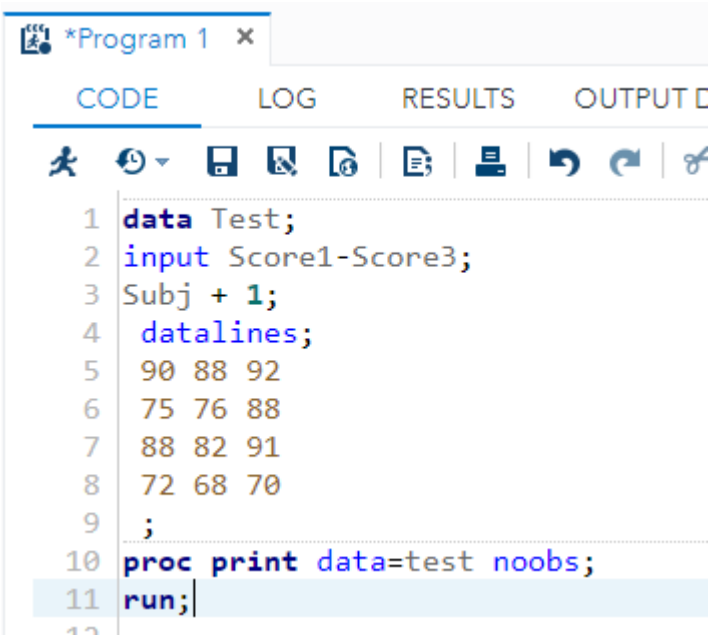


Result:

month	sales	SumSales
1	$4000.00	$4,000.00
2	$5000.00	$9,000.00
3	.	$9,000.00
4	$5500.00	$14,500.00
5	$5000.00	$19,500.00
6	$6000.00	$25,500.00
7	$6500.00	$32,000.00
8	$4500.00	$36,500.00
9	$5100.00	$41,600.00
10	$5700.00	$47,300.00
11	$6500.00	$53,800.00
12	$7500.00	$61,300.00

Problem 3:

Code:

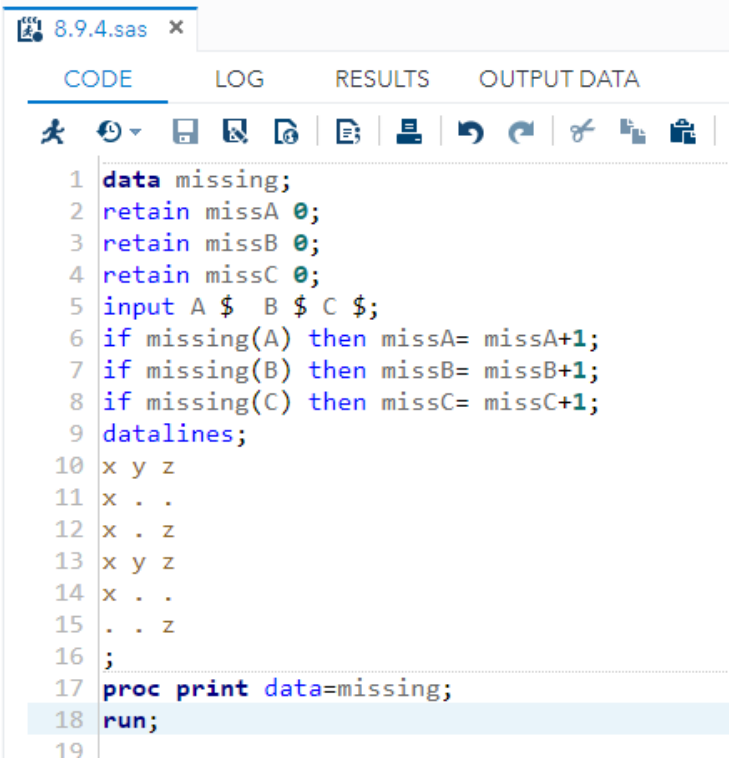


Result:

Score1	Score2	Score3	Subj
90	88	92	1
75	76	88	2
88	82	91	3
72	68	70	4

Problem 4:

Code:

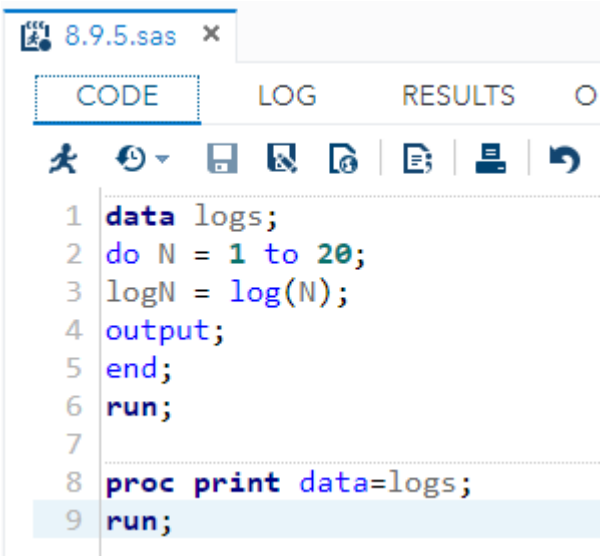


Result:

Obs	missA	missB	missC	A	B	C
1	0	0	0	x	y	z
2	0	1	1	x		
3	0	2	1	x		z
4	0	2	1	x	y	z
5	0	3	2	x		
6	1	4	2			z

Problem 5:

Code:

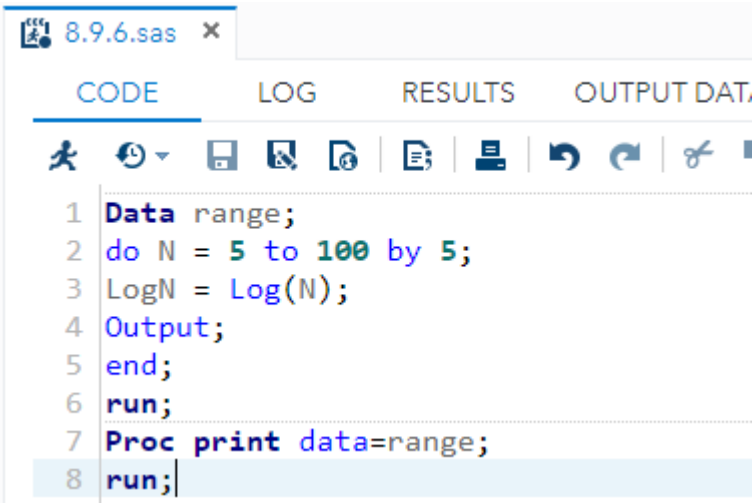


Result:

Obs	N	logN
1	1	0.00000
2	2	0.69315
3	3	1.09861
4	4	1.38629
5	5	1.60944
6	6	1.79176
7	7	1.94591
8	8	2.07944
9	9	2.19722
10	10	2.30259
11	11	2.39790
12	12	2.48491
13	13	2.56495
14	14	2.63906
15	15	2.70805
16	16	2.77259
17	17	2.83321
18	18	2.89037
19	19	2.94444
20	20	2.99573

Problem 6:

Code:



Result:

Obs	N	LogN
1	5	1.60944
2	10	2.30259
3	15	2.70805
4	20	2.99573
5	25	3.21888
6	30	3.40120
7	35	3.55535
8	40	3.68888
9	45	3.80666
10	50	3.91202
11	55	4.00733
12	60	4.09434
13	65	4.17439
14	70	4.24850
15	75	4.31749
16	80	4.38203
17	85	4.44265
18	90	4.49981
19	95	4.55388
20	100	4.60517

Problem 7:

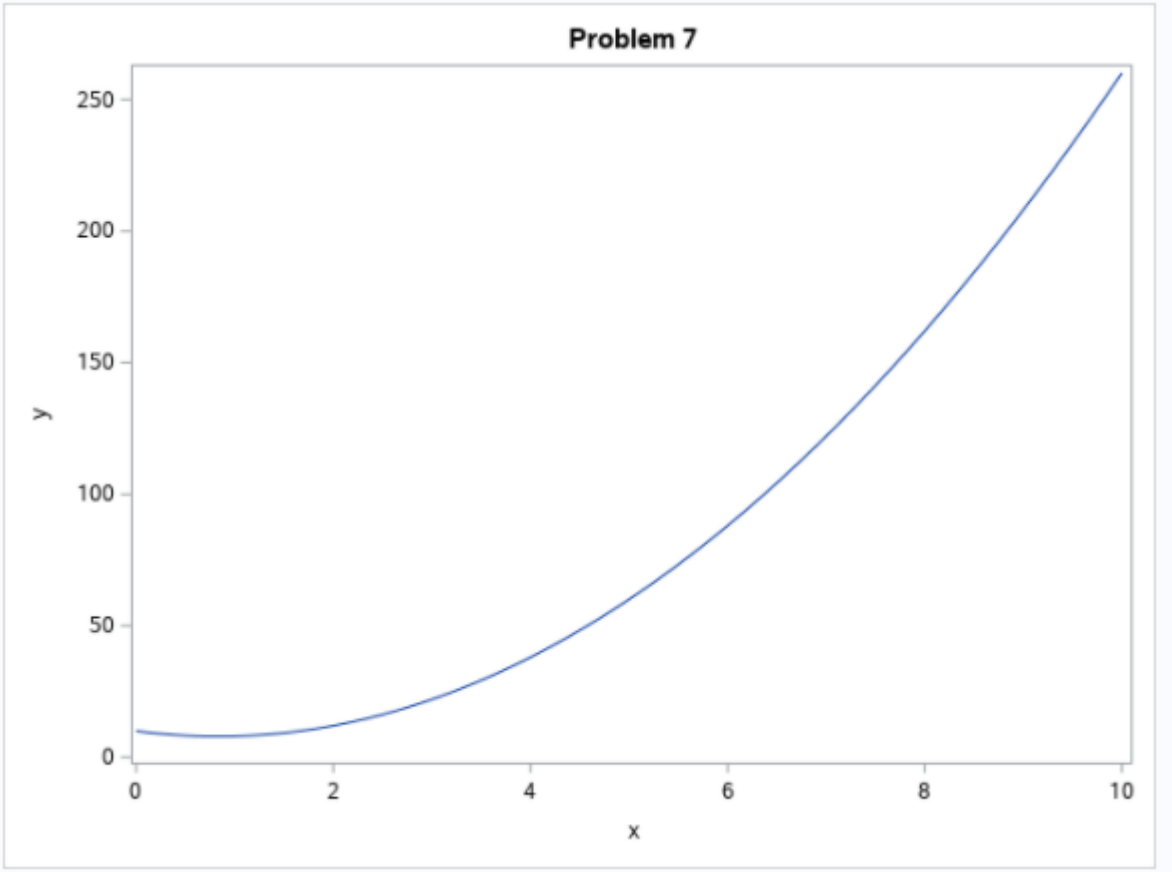
Code:

8.9.7.sas

CODE LOG RESULTS OUTPUT DATA

```
1  Data plot;
2  do x = 0 to 10 by .10;
3  y = 3*x**2 - 5*x+10;
4  output;
5  end;
6  run;
7
8  title "Problem 7";
9  proc sgplot data=plot;
10  series x=x y=y;
11 run;
```

Result:



Problem 8:

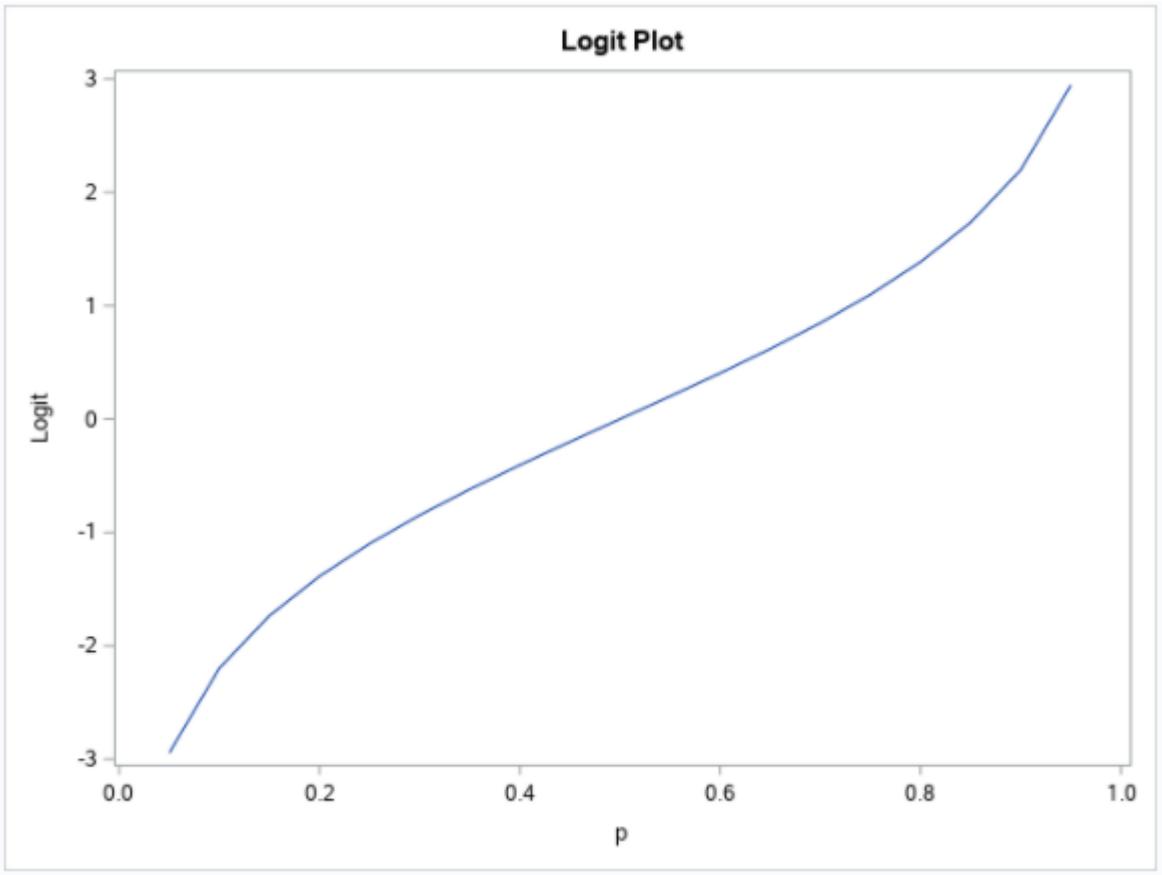
Code:

*8.9.8.sas

CODE LOG RESULTS OUTPUT DATA

```
1  data logitplot;
2  do p = 0 to 1 by .05;
3  Logit = log(p / (1-p));
4  output;
5  end;
6  run;
7  title "Logit Plot";
8   proc sgplot data = Logitplot;
9  series x=p y=Logit;
10  run;
```

Result:



Problem 9:

Code:

8.9.9.sas

CODE LOG RESULTS OUTPUT DATA

```
1  data Days;
2  do Day='Mon','tue','wed','thur','fri','sat','sun';
3  input temp @;
4  output;
5  end;
6  datalines;
7   70 72 74 76 77 78 85
8   ;
9  run;
10 Proc print data=days;
11 run;
```

Result:

Obs	Day	temp
1	Mon	70
2	tue	72
3	wed	74
4	thu	76
5	fri	77
6	sat	78
7	sun	85

Problem 10:

Code:

8.9.10.sas

CODE LOG RESULTS OUTPUT DATA

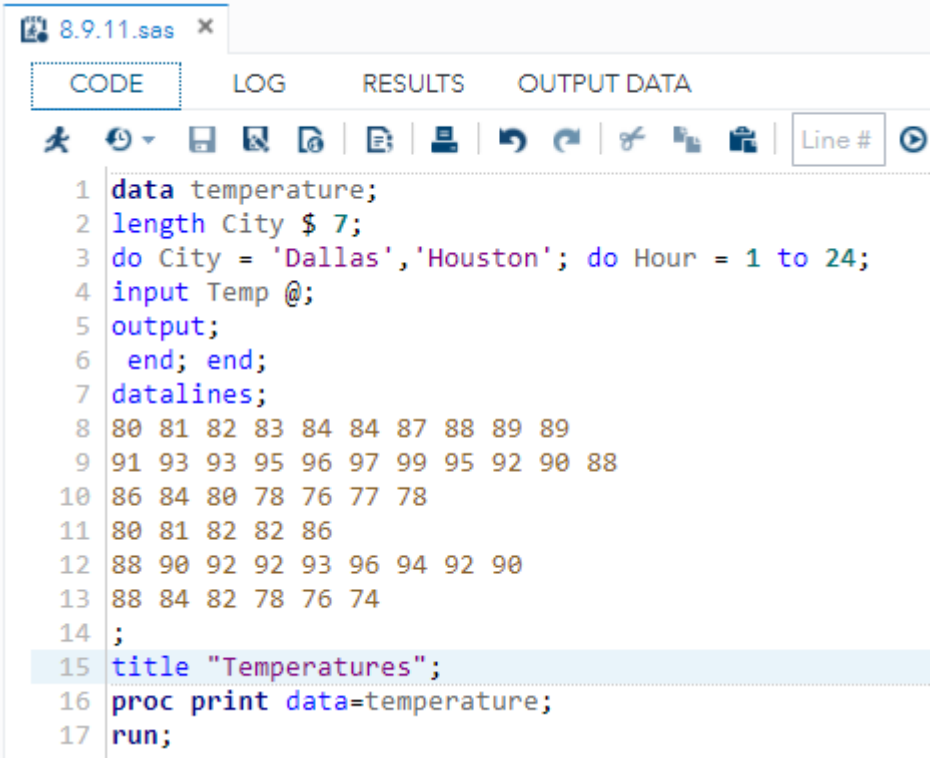
```
1  data Race;
2  do Method = 'A','B','C';
3  do SNo=1 to 10;
4  input score @;
5  output;end;end;
6  datalines;
7  250 255 256 300 244 268 301 322 256 333
8  267 275 256 320 250 340 345 290 280 300
9  350 350 340 290 377 401 380 310 299 399
10 ;
11 proc print data=Race;
12 var Method score;
13 run;
```

Result:

Obs	Method	score
1	A	250
2	A	255
3	A	256
4	A	300
5	A	244
6	A	268
7	A	301
8	A	322
9	A	256
10	A	333
11	B	267
12	B	275
13	B	256
14	B	320
15	B	250
16	B	340
17	B	345
18	B	290
19	B	280
20	B	300
21	C	350
22	C	350
23	C	340
24	C	290
25	C	377
26	C	401
27	C	380
28	C	310
29	C	299
30	C	399

Problem 11:

Code:



Result:

Temperatures

Obs	City	Hour	Temp
1	Dallas	1	80
2	Dallas	2	81
3	Dallas	3	82
4	Dallas	4	83
5	Dallas	5	84
6	Dallas	6	84
7	Dallas	7	87
8	Dallas	8	88
9	Dallas	9	89
10	Dallas	10	89
11	Dallas	11	91
12	Dallas	12	93
13	Dallas	13	93
14	Dallas	14	95
15	Dallas	15	96
16	Dallas	16	97
17	Dallas	17	99
18	Dallas	18	95
19	Dallas	19	92
20	Dallas	20	90
21	Dallas	21	88
22	Dallas	22	86
23	Dallas	23	84
24	Dallas	24	80
25	Houston	1	78
26	Houston	2	76
27	Houston	3	77
28	Houston	4	78
29	Houston	5	80
30	Houston	6	81
31	Houston	7	82
32	Houston	8	82
33	Houston	9	86
34	Houston	10	88
35	Houston	11	90
36	Houston	12	92
37	Houston	13	92
38	Houston	14	93
39	Houston	15	96
40	Houston	16	94
41	Houston	17	92
42	Houston	18	90
43	Houston	19	88
44	Houston	20	84
45	Houston	21	82
46	Houston	22	78
47	Houston	23	76
48	Houston	24	74

Problem 12:

Code:

8.9.12.sas

CODE LOG RESULTS OUTPUT DATA

Line #

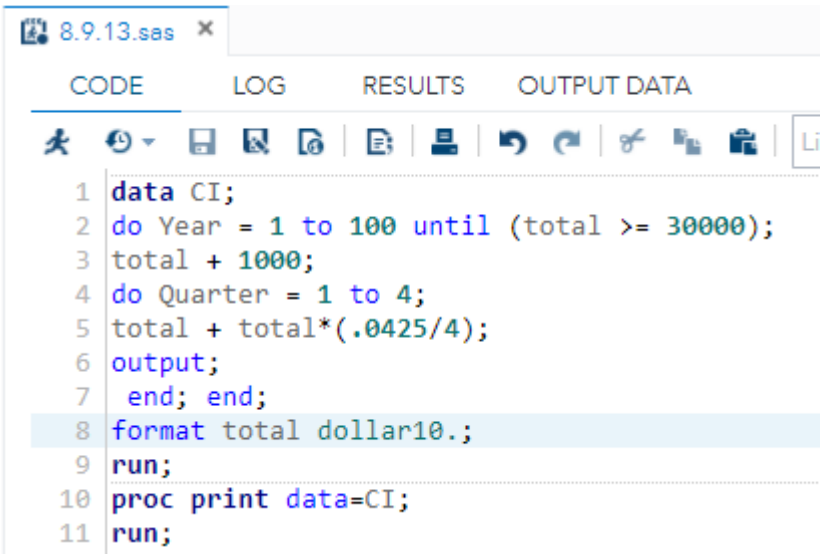
```
1  Data interest;
2  retain year 0;
3  retain total 0;
4  interest= 0.0425;
5  deposit = 1000;
6  do until (total >= 30000);
7  total=(deposit + total)*(1+interest);
8  year = year + 1;
9  output;
10 end;
11 format total dollar11.2 deposit dollar8.2;
12 run;
13 proc print data=interest;
14 var Year deposit interest total;
15 run;
```

Result:

Obs	year	deposit	interest	total
1	1	$1000.00	0.0425	$1,042.50
2	2	$1000.00	0.0425	$2,129.31
3	3	$1000.00	0.0425	$3,262.30
4	4	$1000.00	0.0425	$4,443.45
5	5	$1000.00	0.0425	$5,674.80
6	6	$1000.00	0.0425	$6,958.48
7	7	$1000.00	0.0425	$8,296.71
8	8	$1000.00	0.0425	$9,691.82
9	9	$1000.00	0.0425	$11,146.22
10	10	$1000.00	0.0425	$12,662.44
11	11	$1000.00	0.0425	$14,243.09
12	12	$1000.00	0.0425	$15,890.92
13	13	$1000.00	0.0425	$17,608.79
14	14	$1000.00	0.0425	$19,399.66
15	15	$1000.00	0.0425	$21,266.65
16	16	$1000.00	0.0425	$23,212.98
17	17	$1000.00	0.0425	$25,242.03
18	18	$1000.00	0.0425	$27,357.32
19	19	$1000.00	0.0425	$29,562.50
20	20	$1000.00	0.0425	$31,861.41

Problem 13:

Code:



Result:

Obs	Year	total	Quarter
1	1	$1,011	1
2	1	$1,021	2
3	1	$1,032	3
4	1	$1,043	4
5	2	$2,065	1
6	2	$2,087	2
7	2	$2,109	3
8	2	$2,131	4
9	3	$3,165	1
10	3	$3,198	2
11	3	$3,232	3
12	3	$3,267	4
13	4	$4,312	1
14	4	$4,358	2
15	4	$4,404	3
16	4	$4,451	4
17	5	$5,509	1
18	5	$5,567	2
19	5	$5,626	3
20	5	$5,686	4
21	6	$6,757	1
22	6	$6,829	2
23	6	$6,902	3
24	6	$6,975	4
25	7	$8,060	1
26	7	$8,145	2
27	7	$8,232	3
28	7	$8,319	4
29	8	$9,418	1
30	8	$9,518	2
31	8	$9,620	3
32	8	$9,722	4
33	9	$10,836	1
34	9	$10,951	2
35	9	$11,067	3
36	9	$11,185	4
37	10	$12,314	1
38	10	$12,445	2
39	10	$12,577	3
40	10	$12,711	4
41	11	$13,857	1
42	11	$14,004	2
43	11	$14,153	3
44	11	$14,303	4
45	12	$15,466	1
46	12	$15,630	2
47	12	$15,796	3
48	12	$15,964	4
49	13	$17,144	1
50	13	$17,326	2
51	13	$17,510	3
52	13	$17,696	4
53	14	$18,895	1
54	14	$19,096	2
55	14	$19,299	3
56	14	$19,504	4
57	15	$20,722	1
58	15	$20,942	2
59	15	$21,164	3
60	15	$21,389	4
61	16	$22,627	1
62	16	$22,867	2
63	16	$23,110	3
64	16	$23,356	4
65	17	$24,615	1
66	17	$24,876	2
67	17	$25,141	3
68	17	$25,408	4
69	18	$26,688	1
70	18	$26,972	2
71	18	$27,258	3
72	18	$27,548	4
73	19	$28,851	1
74	19	$29,158	2
75	19	$29,468	3
76	19	$29,781	4
77	20	$31,108	1
78	20	$31,438	2
79	20	$31,772	3
80	20	$32,110	4

Problem 14:

Code:

8.9.14.sas

CODE LOG RESULTS OUTPUT DATA

Line #

```
1 Data square;
2 do Integers = 1 to 100 until (squares > 100);
3 Squares = Integers * integers;
4 output;end;run;
5 proc print data=square;run;
```

Result:

Obs	Integers	squares
1	1	1
2	2	4
3	3	9
4	4	16
5	5	25
6	6	36
7	7	49
8	8	64
9	9	81
10	10	100
11	11	121