

```
options nocenter pageno=1 nodate ls=80;

* Homework 1, Problem 1;
*****;
filename physical 'p:\bio113\hw1_1.dat';
libname exam 'p:\bio113';
data exam.visit; infile physical missover;
informat name $9. dob visdate mmddyy10.;
input name dob sex $ visdate ht wt sbp dbp;
run;
proc print;
title1 'Homework 1, Problem 1';
run;
```

```
1  options nocenter pageno=1 nodate ls=80;
2
3  * Homework 1, Problem 1;
4  *****;
5  filename physical 'p:\bio113\hw1_1.dat';
6  libname exam 'p:\bio113';
NOTE: Libref EXAM was successfully assigned as follows:
      Engine:          V8
      Physical Name: p:\bio113
7  data exam.visit; infile physical missover;
8  informat name $9. dob visdate mmddyy10.;
9  input name dob sex $ visdate ht wt sbp dbp;
10 run;
```

NOTE: The infile PHYSICAL is:  
 File Name=p:\bio113\hw1\_1.dat,  
 RECFM=V,LRECL=256

NOTE: 4 records were read from the infile PHYSICAL.  
 The minimum record length was 44.  
 The maximum record length was 44.

NOTE: The data set EXAM.VISIT has 4 observations and 8 variables.

NOTE: DATA statement used:  
 real time 0.04 seconds  
 cpu time 0.01 seconds

```
11 proc print;
12 title1 'Homework 1, Problem 1';
13 run;
```

NOTE: There were 4 observations read from the data set EXAM.VISIT.

NOTE: PROCEDURE PRINT used:  
 real time 0.03 seconds  
 cpu time 0.00 seconds

Homework 1, Problem 1

1

Obs	name	dob	visdate	sex	ht	wt	sbp	dbp
1	Anne	-1322	16024	f	63	128	119	78
2	Madeleine	8361	16152	f	67	141	132	.
3	Richard	-539	16124	m	.	177	120	75
4	Stephan	470	16193	m	71	156	113	77

```

* Homework 1, Problem 2;
*****;
filename annual 'p:\bio113\hw1_2.dat';
libname count 'p:\bio113';
data count.birds; infile annual trunccover;
input bird $1-12 total 13-20 / males 1-3 females 4-6;
* OR input birds $12. total 8. / males 3. females 3.;
run;
proc print;
    title 'Homework 1, Problem 2';
run;

15  * Homework 1, Problem 2;
16  *****;
17  filename annual 'p:\bio113\hw1_2.dat';
18  libname count 'p:\bio113';
NOTE: Libname COUNT refers to the same physical library as EXAM.
NOTE: Libref COUNT was successfully assigned as follows:
      Engine:          V8
      Physical Name: p:\bio113
19  data count.birds; infile annual trunccover;
20  input bird $1-12 total 13-20 / males 1-3 females 4-6;
21  * OR input birds $12. total 8. / males 3. females 3.;
22  run;

NOTE: The infile ANNUAL is:
      File Name=p:\bio113\hw1_2.dat,
      RECFM=V,LRECL=256

NOTE: 14 records were read from the infile ANNUAL.
      The minimum record length was 6.
      The maximum record length was 20.
NOTE: The data set COUNT.BIRDS has 7 observations and 4 variables.
NOTE: DATA statement used:
      real time          0.01 seconds
      cpu time           0.00 seconds

23  proc print;
24      title 'Homework 1, Problem 2';
25  run;

NOTE: There were 7 observations read from the data set COUNT.BIRDS.
NOTE: PROCEDURE PRINT used:
      real time          0.00 seconds
      cpu time           0.00 seconds

```

## Homework 1, Problem 2

2

Obs	bird	total	males	females
1	cardinal	174	95	35
2	chickadee	382	178	105
3	goldfinch	132	70	62
4	pigeon	15244202	892	978
5	purple finch	446	326	120
6	nuthatch	267	89	77
7	woodpecker	65	39	26

```
* Homework 1, Problem 3;
*****;
libname shapes 'p:\bio113';
data shapes.shapes;
infile 'p:\bio113\hw1_3.dat';
input shape $9. @;
if shape='oval'
    then input rad;
else if shape='rectangle'
    then input len wid;
else delete;
run;
proc print;
title 'Homework 1, Problem 3';
run;
```

```
27 * Homework 1, Problem 3;
28 *****;
29 libname shapes 'p:\bio113';
NOTE: Libname SHAPES refers to the same physical library as COUNT.
NOTE: Libref SHAPES was successfully assigned as follows:
      Engine:          V8
      Physical Name: p:\bio113
30 data shapes.shapes;
31 infile 'p:\bio113\hw1_3.dat';
32 input shape $9. @;
33 if shape='oval'
34     then input rad;
35 else if shape='rectangle'
36     then input len wid;
37 else delete;
38 run;
```

NOTE: The infile 'p:\bio113\hw1\_3.dat' is:  
 File Name=p:\bio113\hw1\_3.dat,  
 RECFM=V,LRECL=256

NOTE: 5 records were read from the infile 'p:\bio113\hw1\_3.dat'.  
 The minimum record length was 13.  
 The maximum record length was 19.  
 NOTE: The data set SHAPES.SHAPES has 4 observations and 4 variables.  
 NOTE: DATA statement used:  
     real time            0.00 seconds  
     cpu time             0.00 seconds

```
39 proc print;
40 title 'Homework 1, Problem 3';
41 run;
```

NOTE: There were 4 observations read from the data set SHAPES.SHAPES.  
 NOTE: PROCEDURE PRINT used:  
     real time            0.00 seconds  
     cpu time             0.00 seconds

Homework 1, Problem 3

3

Obs	shape	rad	len	wid
1	oval	374.00	.	.
2	rectangle	.	18	2
3	oval	57.42	.	.
4	rectangle	.	24	16

```

* Homework 1, Problem 4;
*****;
options nocenter;
filename ivh 'p:\bio113\ivh.dat';
libname out 'p:\bio113';
data out.ivh; infile ivh;
input id 6. hosp 1. sex 1. race 1.
      ga 2. bw 4. ivh 1. medu 1. single 1. cs 1. pih 1.
      labor 6. rom 6. acs 1. mage 2. apg1 2. apg5 2. vent 1.
      los 3. dead 1.
      @45 (wt1-wt4) (4.) @61 (map1-map4) (2.) @69 (pco2_1-pco2_4) (2.)
      @77 (pda1-pda4) (1.) @81 (dopa1-dopa4) (1.) @85 (fluid1-fluid4) (3.)
      @97 (cry1-cry4) (3.) @109 (coll1-coll4) (2.) @117 (ptx1-ptx4) (1.)
      t4 121-125 t4age 126-127;
run;
proc print data=out.ivh (obs=10);
title 'Homework 1, Problem 4';
run;

43  * Homework 1, Problem 4;
44  *****;
45  options nocenter;
46  filename ivh 'p:\bio113\ivh.dat';
47  libname out 'p:\bio113';
NOTE: Libname OUT refers to the same physical library as SHAPES.
NOTE: Libref OUT was successfully assigned as follows:
      Engine:          V8
      Physical Name: p:\bio113
48  data out.ivh; infile ivh;
49  input id 6. hosp 1. sex 1. race 1.
50      ga 2. bw 4. ivh 1. medu 1. single 1. cs 1. pih 1.
51      labor 6. rom 6. acs 1. mage 2. apg1 2. apg5 2. vent 1.
52      los 3. dead 1.
53      @45 (wt1-wt4) (4.) @61 (map1-map4) (2.) @69 (pco2_1-pco2_4) (2.)
54      @77 (pda1-pda4) (1.) @81 (dopa1-dopa4) (1.) @85 (fluid1-fluid4) (3.)
55      @97 (cry1-cry4) (3.) @109 (coll1-coll4) (2.) @117 (ptx1-ptx4) (1.)
56      t4 121-125 t4age 126-127;
57  run;

NOTE: The infile IVH is:
      File Name=p:\bio113\ivh.dat,
      RECFM=V,LRECL=256

NOTE: 566 records were read from the infile IVH.
      The minimum record length was 127.
      The maximum record length was 127.
NOTE: The data set OUT.IVH has 566 observations and 58 variables.
NOTE: DATA statement used:
      real time          0.04 seconds
      cpu time           0.01 seconds

58  proc print data=out.ivh (obs=10);
59  title 'Homework 1, Problem 4';
60  run;

NOTE: There were 10 observations read from the data set OUT.IVH.
NOTE: PROCEDURE PRINT used:
      real time          0.00 seconds
      cpu time           0.00 seconds

```

## Homework 1, Problem 4

4

O b s	s i l m n a r a p p e l e w t																				
	h		r																		
	o		s		a																
	i		s		e		c		g		b		v		d		l		c		
	d		p		x		e		a		w		h		u		e		s		
1	110021	1	0	1	30	1440	0	2	0	1	0	14.0	15.3	2	34	6	7	2	16	0	1440
2	110031	1	1	1	28	1150	0	2	0	1	0	0.0	0.0	2	30	6	8	3	68	0	1150
3	110042	1	0	1	25	750	1	3	0	0	0	99.1	147.0	3	32	5	8	3	49	0	750
4	110061	1	0	3	28	1470	0	1	1	0	0	8.6	32.1	2	16	9	9	2	4	0	1470
5	110071	1	0	2	25	830	1	2	1	0	0	24.4	0.0	2	25	6	7	3	99	0	830
6	110091	1	0	1	29	1500	0	3	0	1	0	99.0	0.0	3	30	4	7	1	7	0	1500
7	110101	1	0	1	27	830	0	2	0	1	1	0.0	0.0	1	26	5	5	3	25	0	830
8	110121	1	1	1	27	1170	1	2	0	0	0	19.3	17.3	3	23	5	7	3	24	0	1170
9	110151	1	0	1	26	785	1	1	0	0	0	31.0	32.0	2	21	2	2	3	53	0	785
10	110152	1	0	1	26	805	0	1	0	1	0	31.0	0.0	2	21	5	5	3	56	0	805

O b s									p c	p c	p c	p c									f l
									o	o	o	o	p	p	p	p	o	o	o	o	u
	w	w	w	a	a	a	a	2	2	2	2	d	d	d	d	p	p	p	p	i	
	t	t	t	p	p	p	p	—	—	—	—	a	a	a	a	a	a	a	a	d	
s	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	
1	1330	1340	1310	41	45	60	99	41	35	45	41	0	0	0	0	0	0	0	0	128	
2	1130	9999	9999	38	37	44	56	38	37	38	44	0	0	0	0	0	1	1	0	128	
3	693	657	626	21	31	46	41	32	29	37	37	0	0	0	0	1	1	0	0	119	
4	1335	1350	1395	99	99	99	99	32	99	99	99	0	0	0	0	0	0	0	0	149	
5	830	730	750	30	36	42	99	42	47	41	44	0	0	0	0	0	0	0	0	135	
6	9999	1360	1350	39	99	99	99	45	99	99	99	0	0	0	0	0	0	0	0	131	
7	890	9999	880	21	37	39	36	99	42	30	44	0	1	0	0	1	1	1	0	104	
8	1170	1070	1010	39	53	57	71	25	29	29	99	0	0	0	0	0	0	0	0	97	
9	9999	846	846	26	40	36	33	25	32	25	31	0	0	1	0	0	1	1	1	186	
10	645	670	641	24	34	40	37	38	41	34	33	0	0	1	0	1	1	0	0	109	

O b s	f	f	f														t
	l	l	l														4
	u	u	u	c	c	c	c	c	c	c	c	p	p	p	p		
	i	i	i	r	r	r	r	o	o	o	o	t	t	t	t		a
b	d	d	d	y	y	y	y	l	l	l	l	x	x	x	x	t	g
s	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	4	e
1	163	175	172	128	163	175	159	99	99	99	13	0	0	0	0	9.55	7
2	157	162	157	116	157	162	145	12	99	99	12	0	0	0	0	7.77	7
3	165	155	153	86	157	155	147	33	8	99	6	0	0	0	0	7.99	3
4	160	186	117	149	160	186	117	99	99	99	99	0	0	0	0	8.42	2
5	159	150	132	117	159	150	120	18	99	99	12	0	0	0	0	6.84	13
6	149	201	231	131	149	201	231	99	99	99	99	0	0	0	0	99.99	99
7	109	106	123	95	101	106	115	9	8	99	8	0	0	0	0	5.94	0
8	161	180	185	97	161	168	185	99	99	12	99	0	0	0	0	8.40	0
9	103	111	113	157	95	107	109	29	8	4	4	0	0	0	0	2.07	14
10	129	125	125	77	129	125	125	32	99	99	99	0	0	0	0	7.40	18