

Question 1

Code:

```
data better;
  set bad (rename=(date = olddate zip = oldzip));
  date = input(olddate, YYMMDD10.);
  zip = put(oldzip, 5.);
  drop olddate oldzip;
run;
```

```
proc contents data = better; run;
```

```
proc print data = better; run;
```

Descriptor:

Alphabetic List of Variables and Attributes			
#	Variable	Type	Len
1	date	Num	8
2	zip	Char	5

Data:

The SAS System

Obs	date	zip
1	22731	47907
2	22741	47906

Question 2

Code:

```
libname pg2 base 'E:\SAS\PG2\data';
proc format library = pg2.hwformats;
value $HIGHREG 'IM'='Intermountain'
              'PW'='Pacific West'
              'SE'='Southeast'
              other='All Other Regions';
value PSIZE low - <10000 = 'Small'
            10000 - <600000 = 'Average'
            600000 - high = 'Large';
run;

options fmtsearch= (pg2.hwformats);
proc freq data = pg2.np_summary;
tables Reg*Acres;
format Reg $HIGHREG. Acres PSIZE.;
run;
```

Proc Freq:

The SAS System

The FREQ Procedure

Frequency Percent Row Pct Col Pct	Table of Reg by Acres				
	Reg(Region Code)	Acres(Gross Acres)			
		Small	Average	Large	Total
All Other Regions		17	15	6	38
		12.59	11.11	4.44	28.15
		44.74	39.47	15.79	
		33.33	22.06	37.50	
Intermountain		23	25	4	52
		17.04	18.52	2.96	38.52
		44.23	48.08	7.69	
		45.10	36.76	25.00	
Pacific West		4	14	5	23
		2.96	10.37	3.70	17.04
		17.39	60.87	21.74	
		7.84	20.59	31.25	
Southeast		7	14	1	22
		5.19	10.37	0.74	16.30
		31.82	63.64	4.55	
		13.73	20.59	6.25	
Total		51	68	16	135
		37.78	50.37	11.85	100.00

Question 3

Code:

```
proc format;
  value DECADE '01JAN2000'd - '31DEC2009'd = '2000-2009'
               '01JAN2010'd - '31DEC2017'd = '2010-2017'
               '01JAN2018'd - '31MAR2018'd = '1st Quarter 2018'
               '01APR2018'd - high = [MMDDYY10.];
run;

proc freq data = pg2.np_weather;
  tables Date;
  where Prcp > 0.4;
  format Date DECADE.;
run;
```

Output:

The SAS System

The FREQ Procedure

Date				
Date	Frequency	Percent	Cumulative Frequency	Cumulative Percent
2000-2009	395	51.37	395	51.37
2010-2017	366	47.59	761	98.96
1st Quarter 2018	5	0.65	766	99.61
04/08/2018	1	0.13	767	99.74
04/12/2018	1	0.13	768	99.87
04/13/2018	1	0.13	769	100.00

Question 4

Code:

```
proc format cntlout=typfmtout;|
select $typCode;
run;

data typfmt_update;
set typfmtout pg2.np_newcodes;
FmtName = '$TypCode';
keep FmtName Start Label;
run;

proc format cntlin=typfmt_update;
run;
```

Output:

The SAS System

The FREQ Procedure

Type	Frequency	Percent
National Monument	63	46.67
National Park	52	38.52
National Preserve	7	5.19
National Seashore	10	7.41
National River	3	2.22

Question 5

Code:

```
data regions_new;
  set pg2.np_types_regions;
  FmtName = "$RegCode";
  run;

data acres_new;
  set pg2.np_acres;
  Start = scan(ParkName, -1);
  run;

proc sort data = pg2.np_2016traffic out = traffic_new;
  by Code;
  run;

proc sort data = acres_new out = acres_new1;
  by ParkCode;
  run;

data april_merged_draft;
  merge traffic_new(in=in_traffic) acres_new1 (rename=(ParkCode = Code) in=in_acres);
  by Code;
  if in_traffic = 1 and in_acres = 1;
  run;

proc sort data = april_merged_draft out = april_merged_draft1;
  by Start;
  run;

proc sort data = regions_new out = regions_new1;
  by Start;
  run;

data april_merged;
  merge april_merged_draft1(in=in_april) regions_new1(in=in_regions);
  drop Year Month FmtName;
  by Start;
  if Month = 4 and in_april = 1 and in_regions = 1;
  run;

proc print data = april_merged (obs =10); run;
```

Output:

The SAS System

Obs	Code	MonthCount	Region	ParkName	State	GrossAcres	Start	Label
1	BIHO	783	Pacific West	BIG HOLE NB	MT	975.61	NB	National Battlefield
2	COWP	8,812	Southeast	COWPENS NB	SC	841.56	NB	National Battlefield
3	FODO	40,489	Southeast	FT DONELSON NB	KY	1,308.91	NB	National Battlefield
4	FONE	3,619	Northeast	FT NECESSITY NB	PA	908.80	NB	National Battlefield
5	MOCR	3,085	Southeast	MOORES CREEK NB	NC	87.75	NB	National Battlefield
6	MONO	3,000	National Capital	MONOCACY NB	MD	1,647.01	NB	National Battlefield
7	PETE	15,490	Northeast	PETERSBURG NB	VA	2,739.72	NB	National Battlefield
8	STRI	15,562	Southeast	STONES RIVER NB	TN	709.46	NB	National Battlefield
9	WICR	5,929	Midwest	WILSONS CREEK NB	MO	2,368.10	NB	National Battlefield
10	KEMO	48,260	Southeast	KENNESAW MT NBP	GA	2,894.29	NBP	National Battlefield Park