STAT 540: Test 2

1. Refer to the attached data set Q1, listing presence/absence of middle initial, first name, middle initial, and last name of recent University of South Carolina Presidents (25 points).

   (a) Write a conditional INPUT statement to read in the variables MI_Ind, Firstname, MI and Lastname. MI should only be read when the value of MI_Ind is equal to Y.

   (b) Write commands to print the first four observations.

   (c) Grad students: Write commands to print the second and third observations.

2. Refer to data set Q2, which lists USC Presidents and the date they assumed office (note that the year is correct, but the month and day are fictional). (25 points)

   (a) Write an INPUT statement to read in the first name, middle initial, last name and date as the variables FirstName, MI, LastName and Date. Be sure to use code that accommodates a missing value for President Pastides' missing middle initial.

   (b) Save the data set in a permanent SAS data set named USCPres. Be sure to include a libname statement using a directory of your choice.

   (c) Use a subsetting IF to create a data set that contains presidents appointed after January 1, 2000.

   (d) Repeat the same exercise using a WHERE command.

   (e) Returning to the original data set, use a WHERE statement in PROC PRINT to print only those records for presidents appointed after January 1, 2000. Graduate students should provide two methods, including the use of WHERE in the main PROC PRINT statement.

3. Refer to data set Electric for the following questions. (25 points)

   (a) Create a variable Season, with values Spring, Summer, Winter and Fall, based on Month; you will not be penalized if you assign months to the wrong season, within reason.

   (b) Create a variable Rate and assign it an appropriate format so that it is printed in dollars and cents.

   (c) Write code to compute the maximum number of monthly kilowatt hours.

4. Refer again to data set Electric, including variables Season and Rate from Question 3 (25 points).

   (a) Write appropriate code in PROC PRINT so that the variable KWH is printed with the label "Kilowatt Hours".

   (b) Write code in PROC MEANS so that the minimum for each season is printed (and only the minimum) for the variables rate, kilowatt hours and cost.

   (c) Create four new data sets Summer, Winter, Spring and Fall based on the appropriate value of the variable Season.

Data set Q1

```
/*--5---10---15---20---25---30---35---40---45*/
Y James B. Holderman
Y Arthur K. Smith
Y John M. Palms
Y Andrew A. Sorenson
N Harris Pastides
```

Data set Q2

```
/*--5---10---15---20---25---30---35---40---45*/

Arthur K. Smith     06/30/1990
John M.   Palms     05/16/1991
Andrew A. Sorenson 01/01/2002
Harris    Pastides 08/10/2008
```

Q3 and Q4. Data set Electric listing month, kilowatt hours and cost for a household's monthly electric bills

Month	KWH	Cost
July	2121	263.64
August	2281	261.81
September	1808	210.06
October	1008	139.19
November	873	130.34
December	1473	219.08
January	1821	291.66
February	2551	303.03
March	1014	149.67
April	951	141.94
May	1002	146.43
June	1892	244.58