Math 473, SAS on Windows Handout

SAS is a statistical software package that will be used in this course. You will need a flash drive. There are SAS manuals and books at the library, but they are not needed in this course.

0) computer lab login: If necessary, hit Ctrl, enter your
AD\siu8... (dawg tag) and your password. Left click the lower left icon to see programs.

1) Click the lower left icon to see programs in the icons Window. You can click on the desktop icon to escape. If your computer does not have SAS, go to another computer. If you click on something and can't get out of the information window, there is a Windows key that looks like 4 rectangles and is on the lower left of the keyboard near the Ctrl key. This Windows key can get you back to icons Windows.

2) Google my name, get to my website, click on the Multiple Linear and 1D Regression website, click on the reghw.txt link, highlight the program for problem 16.36. Hit Ctrl–c. Click the lower left icon to see programs. Double click the `SAS 9.4` icon. The editor window is the lower window. Click on that window,then hit Ctrl–v to paste in the program. Then run>submit. Output will appear in a few minutes.

(You can copy and paste the program from (http://parker.ad.siu.edu/Olive/survhw.txt) problem 1.20. The *ls* stands for linesize so *l* is a lowercase *L*, not the number one.)

```
*Math 473 HW2.2, from Allison (1995, p. 49-50)
options ls = 70; data heart;
input time status number; cards;
25 1 16
25 0 3
75 1 11
75 0 0
150 1 4
150 0 2
300 1 5
300 0 4
550 1 2
550 0 6
850 1 4
850 0 3
1150 1 1
1150 0 2
1450 1 1
1450 0 3
1700 1 0
1700 0 1
;
proc lifetest method = life intervals = 50 100 200 400 700
              1000 1300 1600 plots=(s,h) graphics outsurv=a;
     time time*status(0);
```

```
     freq number;
proc print data = a;
run;
```

3) Since there is no printer you will be emailing me Word files. Click the lower left icon then the *Word* icon. In SAS, you can highlight output, use the Edit>copy command, and then paste the highlighted output into *Word*. Or in SAS, use Edit>Select All>Copy and paste into *Word*. Then delete irrelevant output. Microsoft wanted some type of update of *Word*, an I had to get in and out of *Word* several times before I could click on the *blank* page icon to open *Word*.

If you were not successful, look at the *log window* for hints on errors. A single typo can cause failure. Reopen your file in *Word* or *Notepad* and make corrections. Occasionally you can not find your error. Then find your instructor or wait a few hours and reenter the program. *Word* seems to make better looking tables, and copying from *Notepad* to *Word* can completely ruin the table.

4) This point explains the SAS commands. The semicolon ";" is used to end SAS commands and the "options ls = 70;" command makes the output readable. (An "*" can be used to insert comments into the SAS program. Try putting an * before the options command and see what it does to the output.) The next step is to get the data into SAS. The command "data heart;" gives the name "heart" to the data set. The command "input time status number;" says the first entry is the censored variable time, the 2nd variable status (0 if censored 1 if uncensored) and the third variable number (= number of deaths or number of cases censored, depending on status). The command "cards;" means that the data is entered below. Then the data in entered and the isolated semicolon indicates that the last case has been entered. The next 4 lines make perform the lifetable estimates for S(t) and the corresponding confidence intervals. Also plots of the estimated survival and hazard functions are given. The command "run;" tells SAS to execute the program.

We use the computers in the back 11–25. *R* is on computers 11–25. Hopefully SAS is on computers (11-25 or) 13, 16-19, 21, 23, and 25.

SAS (www.sas.com) has a free SAS University Edition and free tutorials for SAS programming. You can request materials from the SAS institute as well. They make these available for free for professors to use in teaching. They have some nice examples and data sets. See SAS Global Academic Program (http://support.sas.com/learn/ap/prof/index.html) for information.

There are some nice examples in SAS Statistics 1, this is also now available free as an e-course now for anyone.

`(https://support.sas.com/edu/elearning.html?ctry=us&productType=library)`

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