Exercise 1. For the data in file ‘ExamEx1.xls’, produce a report identical to the one in file ‘Report\_Ex1.html’.

Exercise 2. Information on presence or absence (yes or no) of two characteristics A and B is available for several individuals. The data are stored in file ‘ExamEx2.dat’. Compute the number of individuals who have

(a) characteristic A

(b) characteristic B

(c) only characteristic A

(d) only characteristic B

(e) both characteristics

(f) neither characteristic

(g) either characteristic

Exercise 3. Use a DO loop to list all terms in the Fibonacci sequence that do not exceed 1,000. Hint: In the Fibonacci sequence, each consecutive number equals the sum of the two preceding it, e.g, 1, 1, 2, 3, 5, 8, …

Exercise 4. Patients underwent knee replacement surgeries for one or both knees. The data record patient id, the replaced knee number (1 or 2), and satisfaction scores pre-operatively, one day, one week, and one month after the surgery. The data are

Patient Knee Score Score at Score at Score at

ID Number Pre-op one day one week one month

01 1 0 5 7 10

02 1 0 10 15 15

02 2 3 5 8 10

03 1 0 3 3 3

03 2 0 6 9 9

04 1 0 4 10 10

(a) Use the ARRAY statement to create a data set containing satisfaction scores for knee 1. The data set should look like this

id visit score

01 1 0

01 2 5

01 3 7

01 4 10

02 1 0

02 2 10

02 3 15

02 4 15

03 1 0

03 2 3

03 3 3

03 4 3

04 1 0

04 2 4

04 3 10

04 4 10

(b) Use the ARRAY statement to create a data set containing satisfaction scores for knee 2. The data set should look like this

id visit score

02 1 3

02 2 5

02 3 8

02 4 10

03 1 0

03 2 6

03 3 9

03 4 9

(c) Use the MERGE statement to create the merged file that looks like this

score\_ score\_

id visit knee1 knee2

01 pre\_op 0 .

01 day 1 5 .

01 week 1 7 .

01 month 1 10 .

02 pre\_op 0 3

02 day 1 10 5

02 week 1 15 8

02 month 1 15 10

03 pre\_op 0 0

03 day 1 3 6

03 week 1 3 9

03 month 1 3 9

04 pre\_op 0 .

04 day 1 4 .

04 week 1 10 .

04 month 1 10 .

(d) Turn in your SAS code as well as the output it produces.