MAT 3312 Homework 1/ Computing exercise Spring 21

Name: Student 3 Date:

Use SAS on demand to answer the following questions regarding descriptive statistics. You may place your results from SAS below. **Please copy and paste your SAS code to the end of your assignment.**

Import the Hospital dataset from the course data in SAS on demand. **Use the dataset to questions 1-8.**

Question 1. 2.1 from the book duration

Mean= 8.6

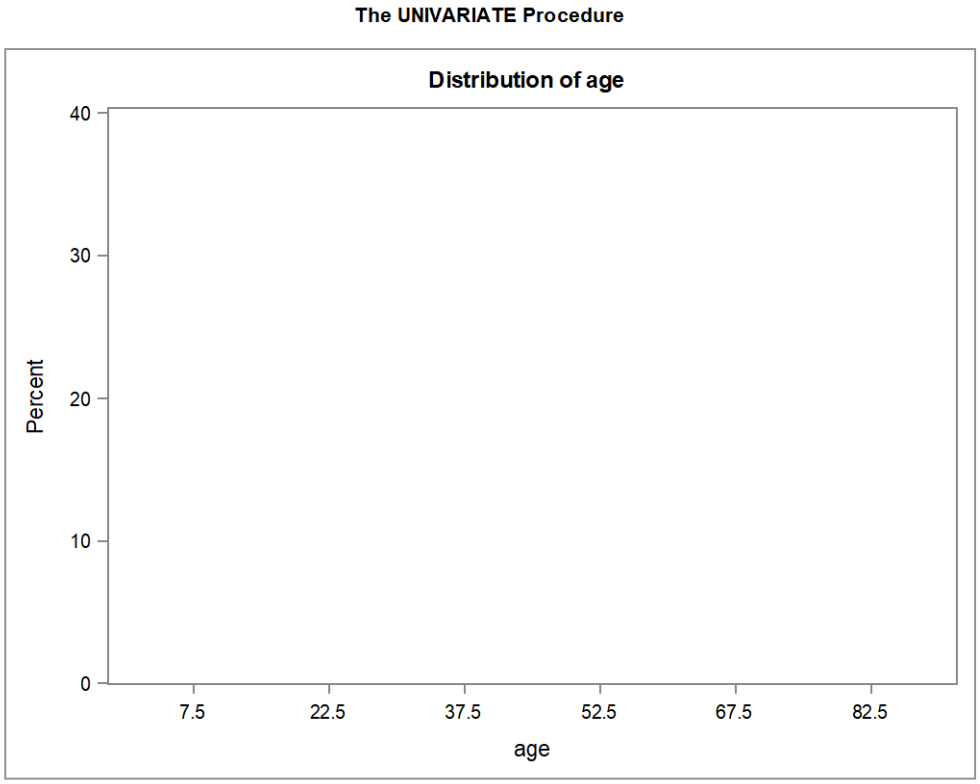
Median= 8.0

Question 2. 2.2 from the book duration

Standard deviation= 5.7

Range= 27.0

Question 3. Graphically display the distribution of the variable age and add a title to your graphical display using SAS. Please include your initials in the title. Example "Distribution of Age FS"



MAT 3312 Homework 1/ Computing exercise Spring 21

Question 4. Describe the distribution of the variable age based on the graphical display you created in question 3.

This graph shows the patients ages and what percent of them lay within the age brackets shown above.

Question 5. Find the five number summary of the variable first temp following admission?

Min= 96.8

Q1= 98.0

Q2= 98.2

Q3= 98.6

Max= 99.5

Question 6. What is the range, mode, and IRQ of the variable white blood cell count (WBC)?

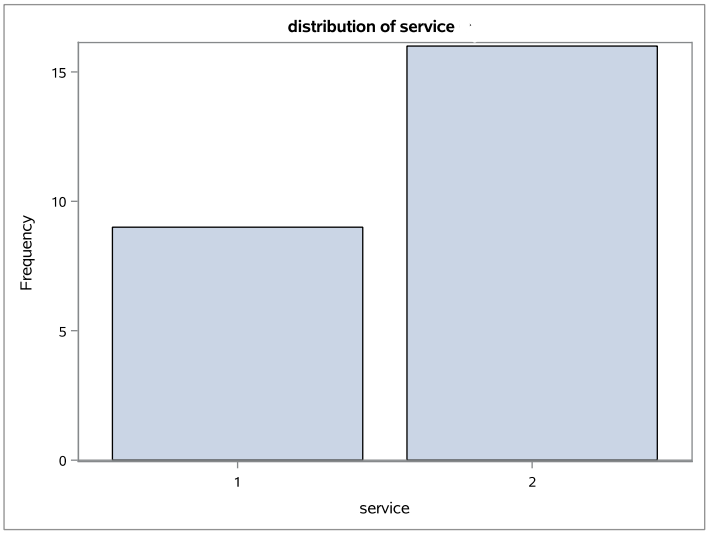
Range= 11.0

Mode= 5.0

IQR= 6.0

Question 7. Graphically display the distribution of the variable service and add a title to your graphical display using SAS. Please include your initials in the title.

MAT 3312 Homework 1/ Computing exercise Spring 21



Question 8. Describe the distribution of the variable service based on the graphical display you created in question 7.

This graph shows how many patients have received either a medical or surgical service.

Use the data containing baseline information of subjects entering a health study below to answer questions 9 and 10.

Sex	Age	Cholesterol level	Smoking status
F	50	178	Y
M	61	146	Y
M	72	208	N
M	55	147	Y
F	59	202	N
M	65	215	N
F	68	184	N
F	59	208	Y
F	63	206	N
M	52	169	N

Question 9. Convert the raw data into a SAS data file. Print the data below.

MAT 3312 Homework 1/ Computing exercise Spring 21

```
data healthstudy;
input sex $ age cholesterol status $ ;
cards;
F 50 178 Y
M 61 146 Y
M 72 208 N
M 55 147 Y
F 59 202 N
M 65 215 N
F 68 184 N
F 59 208 Y
F 63 206 N
M 52 169 N
;
RUN;

proc univariate data= healthstudy;
var cholesterol;
run;
```

Question 10. What is the mean and standard deviation of the variable cholesterol? Is there no variability, small or a lot of variability for this variable?

Mean= 186.3

Standard deviation= 25.69

There is a lot of variability for this variable.

MAT 3312 Homework 1/ Computing exercise Spring 21

```
data Hospitalstay;
input ID duration age sex temp WBC antibiotic culture service ;
cards;
1 5 30 2 99.0 8 2 2 1
2 10 73 2 98.0 5 2 1 1
3 6 40 2 99.0 12 2 2 2
4 11 47 2 98.2 4 2 2 2
5 5 25 2 98.5 11 2 2 2
6 14 82 1 96.8 6 1 2 2
7 30 60 1 99.5 8 1 1 1
8 11 56 2 98.6 7 2 2 1
9 17 43 2 98.0 7 2 2 1
10 3 50 1 98.0 12 2 1 2
11 9 59 2 97.6 7 2 1 1
12 3 4 1 97.8 3 2 2 2
13 8 22 2 99.5 11 1 2 2
14 8 33 2 98.4 14 1 1 2
15 5 20 2 98.4 11 2 1 2
16 5 32 1 99.0 9 2 2 2
17 7 36 1 99.2 6 1 2 2
18 4 69 1 98.0 6 2 2 2
19 3 47 1 97.0 5 1 2 1
20 7 22 1 98.2 6 2 2 2
21 9 11 1 98.2 10 2 2 2
22 11 19 1 98.6 14 1 2 2
23 11 67 2 97.6 4 2 2 1
24 9 43 2 98.6 5 2 2 2
25 4 41 2 98.0 5 2 2 1
;
run;
```

```
proc means data= hospitalstay;
var duration;
run;
```

```
proc univariate data= hospitalstay;
var duration;
run;
```

```
proc univariate data= hospitalstay;
var age;
histogram age;
run;
```

```
proc univariate data= hospitalstay;
var temp;
run;
```

```
PROC UNIVARIATE DATA= hospitalstay;
var WBC;
run;
```

```
proc sgplot data= hospitalstay;
vbar service;
title "distribution of service  .";
run;
```