MAT 3312 Homework 1/ Computing exercise Spring 21

Name: Student4 Date:02/19/2021

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.**

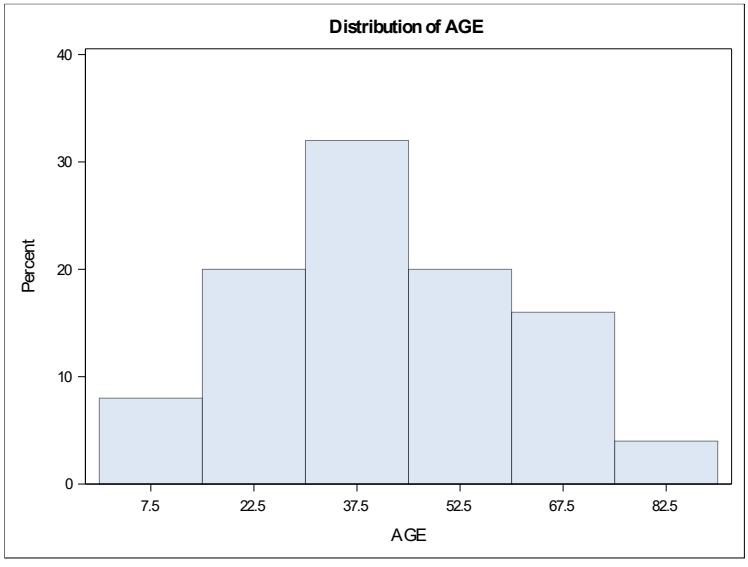
Import the Hospital dataset from the course data in SAS on demand. **Use the dataset to questions 1-8.**

Question 1. 2.1 from the book
Mean: 8.6
Median 8.0

Question 2. 2.2 from the book
Standard Deviation: 5.7154
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"

Distribution of Age AG
The UNIVARIATE Procedure



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

I would describe this distribution as a Symmetric Distribution because the distribution on the left looks exactly like the distribution on the right.

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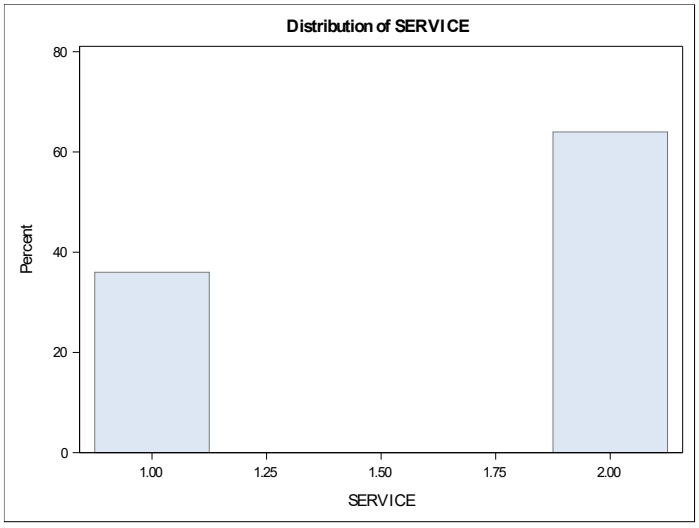
Question 5. Find the five number summary of the variable first temp following admission?
Minimum Value: 96.8
Maximum Value: 99.0
Q1: 98.0
Q2: 98.2
Q3: 98.6

Question 6. What is the range, mode, and IRQ of the variable white blood cell count (WBC)?
Range: 11.00000
Mode: 5.000000
IQR: Q3 – Q1 = 11-5-6 so the IQR is 6

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.

Distribution of SERVICE AG
The UNIVARIATE Procedure



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

The distribution would be Left Skewed Asymmetric because most of the distrubtion is to the right.

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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.

Obs	Sex	Age	CholesterolLevel	SmokingStatus
1	F	50	178	Y
2	M	61	146	Y
3	M	72	208	N
4	M	55	147	Y
5	F	59	202	N
6	M	65	215	N
7	F	68	184	N
8	F	59	208	Y
9	F	63	206	N
10	M	52	169	N

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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: 186.3000000

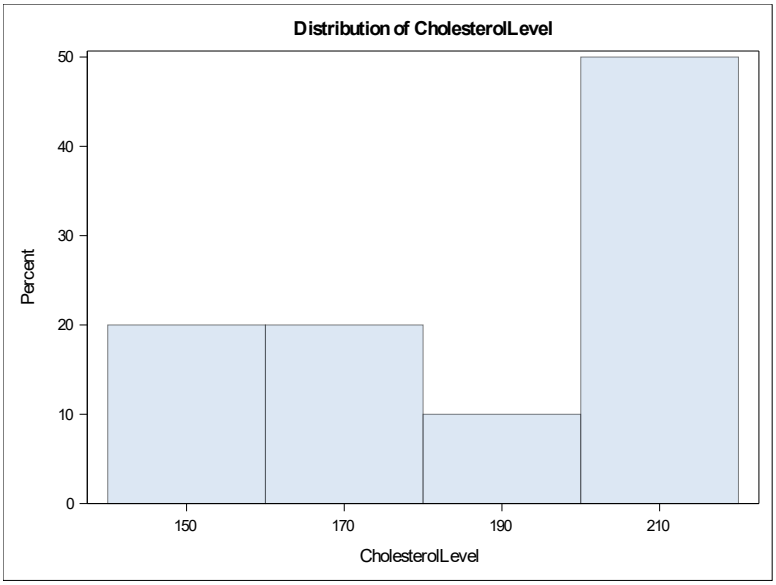
Standard Deviation: 25.6950060

Analysis Variable : CholesterolLevel				
N	Mean	Std Dev	Minimum	Maximum
10	186.3000000	25.6950060	146.0000000	215.0000000

I would say no variability because while observing the graph and the distribution of the cholesterol levels, there is a steady pattern in the beginning but a significant drop in the middle and then the variation tends to escalate towards the end.

Distribution of Cholesterol Level AG

The UNIVARIATE Procedure



SAS code is listed below.

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SAS CODE FOR HOMEWORK 1:

```
LIBNAME datalib "~/my_shared_file_links/griffinfr0/" access=readonly;

/*compute the mean and median for the duration of hositalizaton for the 25 patients*/
proc means data = datalib.hospital;
run;

/*used to examine the distribution for quantiative data sets. finds mean, mode, sd, skewness and
quantiles*/
proc univariate data = datalib.hospital;
var dur_stay;
run;

/*graphically display the distribution of the variable age and add a title to your graphical display*/
proc univariate data = datalib.hospital;
var age;
histogram age;
title "Distribution of Age AG";
run;

/*find the fivenumber summary of the variable first temp follwing admission*/
proc univariate data = datalib.hospital;
var temp;
run;

/*find the range, mode and IRQ of the vaiable whit blood cells count (WBC)*/
proc univariate data = datalib.hospital;
var WBC;
run;

/*graphically display the distribution of the variable service and add a titelto your graphical displaying*/
proc univariate data = datalib.hospital;
var service;
histogram service;
title "Distribution of SERVICE AG";
run;

/*How to convert raw data into sas data*/
/*step 1 create a SAS data set*/
/** name data set*/

data hstudy htwt; /* name data set*/
input Sex $ Age CholesterolLevel SmokingStatus$; /*input name of variables*/
cards; /* lets you know datalines are follwoing*/
F 50 178 Y
M 61 146 Y
M 72 208 N
M 55 147 Y
```

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```
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; /* runs the sas command*/

/* how to print data*/
proc print data=hstudy;
run;

/* how to find the mean and standard deviation of hstudy*/
proc means data = hstudy;
var CholesterolLevel;
run;


proc univariate data = hstudy;
var CholesterolLevel;
histogram CholesterolLevel;
title "Distribution of CholesterolLevel AG";
run;
```