MAT 3312 Homework 1/ Computing exercise Spring 21

Name: Student5 Date: Feb 23rd, 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

Median: 8.0

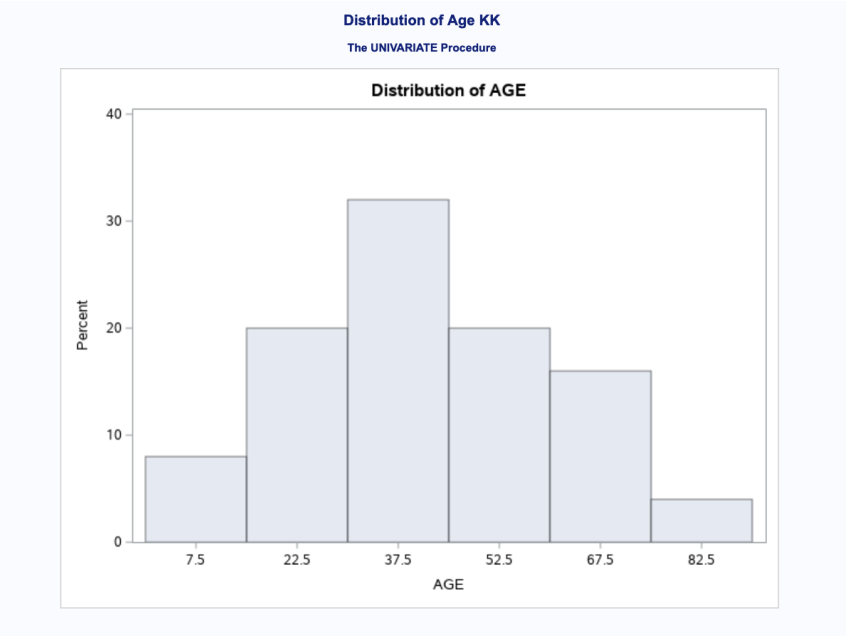
Mean: 8.6

Question 2. 2.2 from the book

Standard deviation: 5.71548

Range: 27

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"



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

The distribution based on the data shows that there is roughly symmetric. One outlier that may lie within the data is around 7.5.

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

Minimum: 96.8

Q1: 98

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

Mode: 5

IRQ: 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.

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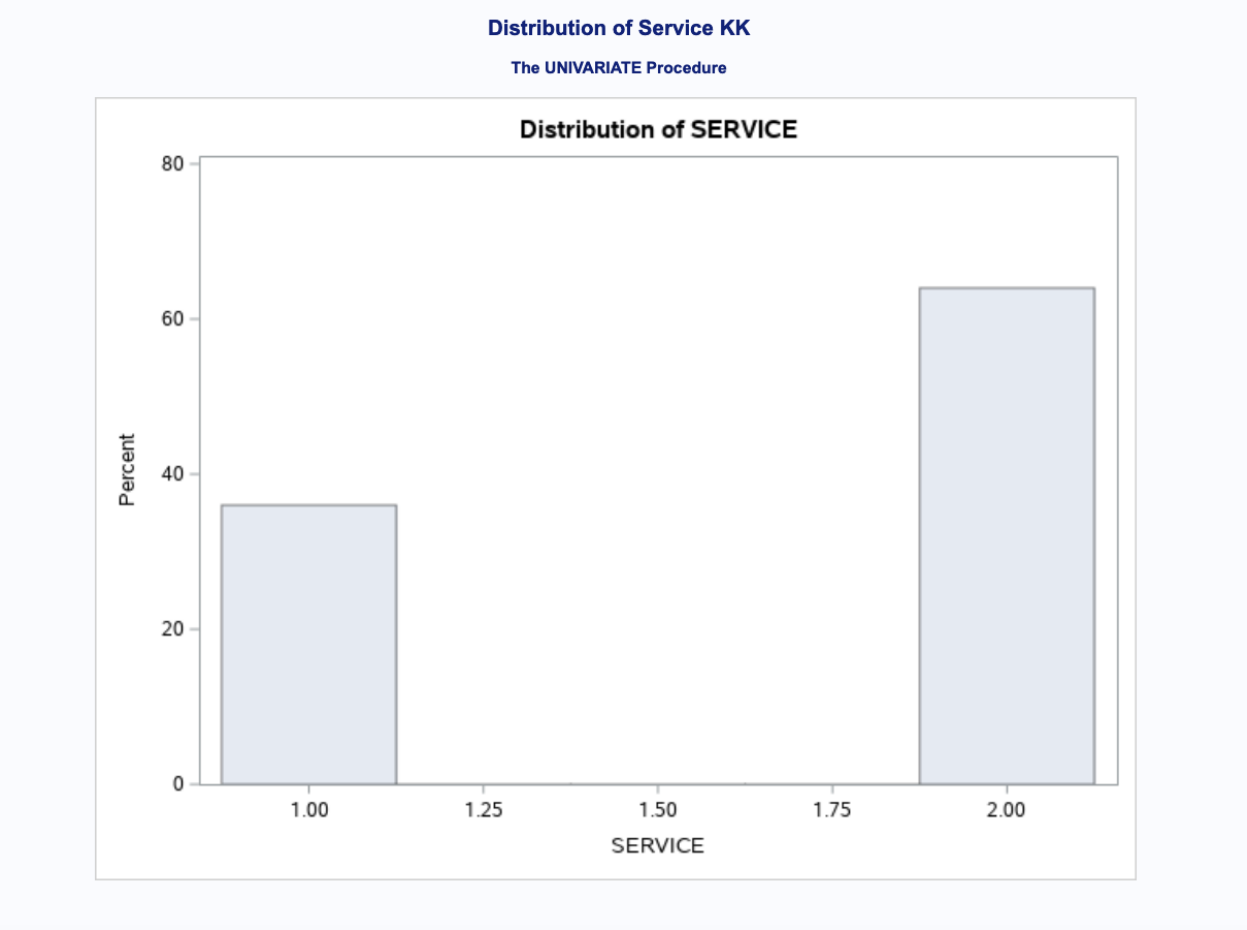

Question 8. Describe the distribution of the variable service based on the graphical display you created in question 7.

Based on the graphical display, the distribution seems to be very spread out. The number range from around 1 to 2, which nothing in between. The values of the data seem to show that there is not much variability in the data.

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

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

Health Study

Obs	sex	age	chol_level	smoking_status
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

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: 24.37

Small variability

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CODES

Code: Hospital Data.sas

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

proc print data=datalib.hospital;
run;

/* find mean and median */
proc means data=datalib.hospital;
var DUR_STAY;
run;

/* find SD and range */
proc univariate data=datalib.hospital;
var DUR_STAY;
run;

/* histogram for data distribution */
proc univariate data= datalib.hospital;
var age;
histogram age;
title "Distribution of Age KK";
run;

/* five number summary of temp */
proc univariate data=datalib.hospital;
var temp;
run;

/* five number summary of wbc */
proc univariate data=datalib.hospital;
var wbc;
run;

/* data histogram */
proc univariate data= datalib.hospital;
var service;
histogram service;
title "Distribution of Service KK";
run;
```

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Code: Health Study Data Set KK.sas

```
data health study;
    /*name data set*/
    input sex $ age $ chol_level $ smoking_status;

    /*input names of variables*/
    cards;
/* lets you know data line are following*/
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;

/*runs the sas command*/
PROC PRINT DATA=HEALTH;
RUN;

proc univariate data=datalib.health;
    var chol_level;
run;
```