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STAT250 DL2

<u>MINITAB Assignment 1</u>

1. 100 people were asked what color car they would purchase. The results are in the MINITAB file Called MINITAB 1 Problem 1 Data.

   a. **Copy and Paste all Responses in the Sessions windows as you opened your MINITAB 1 Problem 1 Data. Be sure to <u>include the date</u>. Otherwise you will receive no points for this problem.**

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MTB > Save  "E:\MY FILES\STAT 250\SPRING 2013\MINITAB ASSIGNMENTS\MINITAB ASSIGNMENT 1
FALL\MINITAB 1 PROBLEM 1 DATA.MPJ";
SUBC>   Project;
SUBC>   Replace.
```
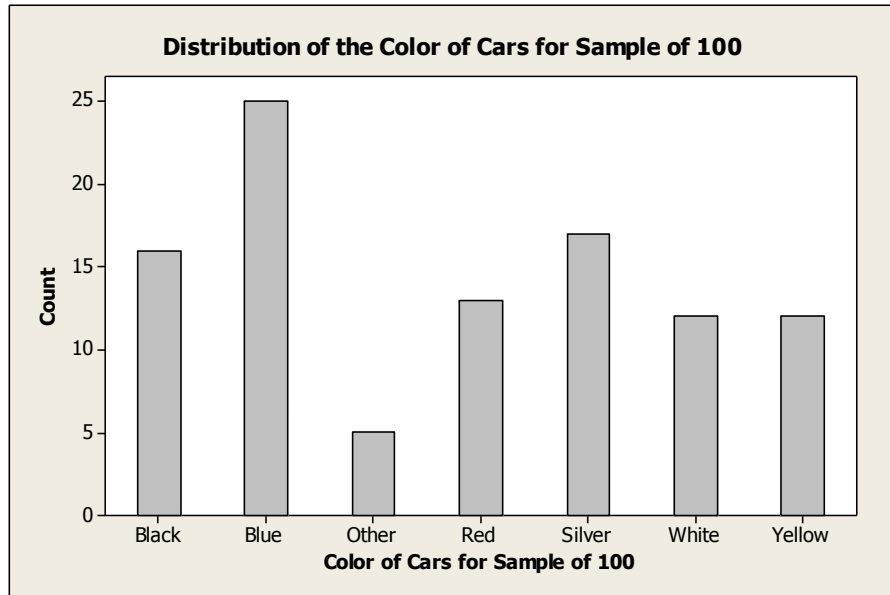
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Retrieving project from file: 'C:\USERS\SHARON\APPDATA\LOCAL\TEMP\MINITAB 1
PROBLEM 1 DATA(1).MPJ'
MTB >
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   b. Make a pie chart to display the distribution of color of car. Make sure the graph has proper titles and labels. For each category, display the label and percent.
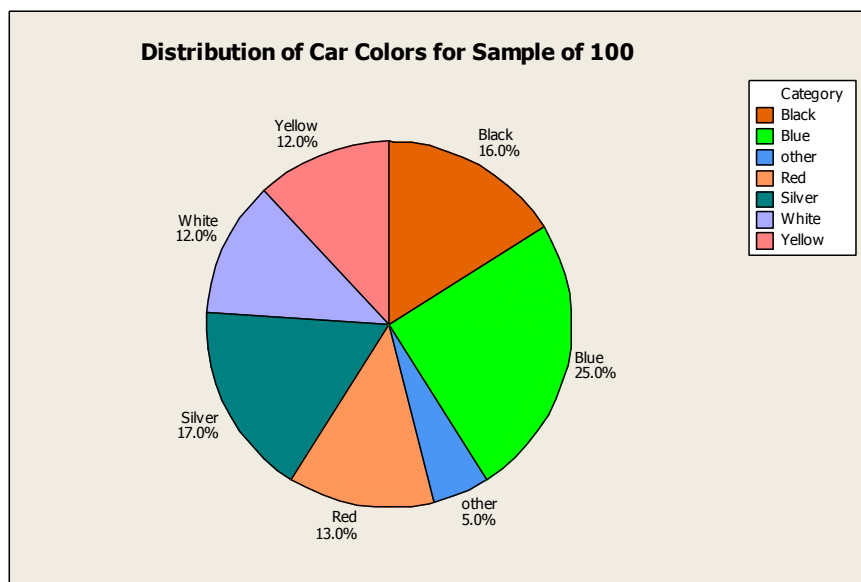
c. Construct a frequency bar graph of the data in the sample. Make sure that the graph has a proper title and labels.

Distribution of the Color of Cars for Sample of 100

Color	Count
Black	16
Blue	25
Other	5
Red	13
Silver	17
White	12
Yellow	12

Count (y-axis) vs. Color of Cars for Sample of 100 (x-axis)

d. What percent of cars were in the Blue category?

25% of cars were in the Blue category.

e. If you were the owner of a car dealership looking at the above charts, what color car would you make sure you had in stock (which color is most popular)?

If I owned a car dealership I would be sure to stock a good supply of blue cars.

2. Fatty acids, despite their unpleasant name, are necessary for human health. Two types of essential fatty acids, called omega-3 and omega-6, are not produced by our bodies and so must be obtained from our food. Food oils, widely used in food processing and cooking, are major sources of these compounds. There is some evidence that a healthy diet should have more omega-3 than omega-6. The data is on Blackboard in the MINITAB Assignments folder called **MINITAB Assignment 1 Problem 2 Data** gives the ratio of omega-3 to omega-6 in some common food oils. Values greater than 1 show that an oil has more omega-3 than omega-6.

This is the Table of Omega-3 fatty acids as a fraction of omega-6 fatty acids in food oils.

OIL	RATIO	OIL	RATIO
Perilla	5.33	Flaxseed	3.56
Walnut	0.20	Canola	0.46
Wheat germ	0.13	Soybean	0.13
Mustard	0.38	Grape seed	0.00
Sardine	2.16	Menhaden	1.96
Salmon	2.50	Herring	2.67
Mayonnaise	0.06	Soybean	0.07
Cod liver	2.00	Rice bran	0.05
Shortening (household)	0.11	Butter	0.64
Shortening (industrial)	0.06	Sunflower	0.03
Margarine	0.05	Corn	0.01
Olive	0.08	Sesame	0.01
Shea nut	0.06	Cottonseed	0.00
Sunflower (oleic)	0.05	Palm	0.02
Sunflower (linoleic)	0.00	Cocoa butter	0.04

a. **Copy and Paste all Responses in the Sessions windows as you opened your MINITAB 1 Problem 2 Data. Be sure to <u>include the date</u>. Otherwise you will receive no points for this problem.**
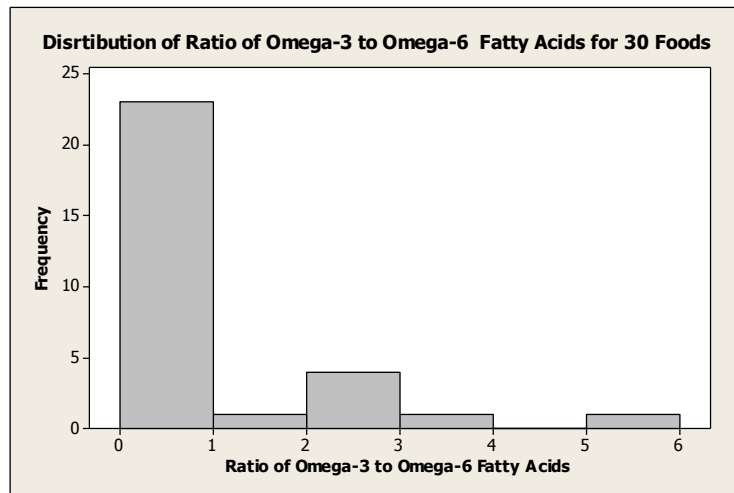
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PROBLEM 2 DATA(1).MPJ'

b. Make a histogram of these data, using classes bounded by the whole numbers from 0 to 6. Remember to have good titles and labels. The majority of the points for these problems are making good graphs and charts.

Disrtibution of Ratio of Omega-3 to Omega-6 Fatty Acids for 30 Foods

Frequency (y-axis): 0, 5, 10, 15, 20, 25
Ratio of Omega-3 to Omega-6 Fatty Acids (x-axis): 0, 1, 2, 3, 4, 5, 6

c. Is the distribution of Omega-3 to Omega-6 fatty acids a right skewed distribution? If not, what is the shape of this distribution?

The distribution of Omega-3 to Omega-6 fatty acids is a right skewed distribution because it has a long right tail.

d. How Many of the 30 food oils have less omega-3 than omega-6?

It looks like about 23 food oils have less omega-3 than omega-6 (ratio < 1).

e. The above table contains entries for several fish oils (cod, herring, menhaden, salmon, sardine). How do these values support the idea that eating fish is healthy?

Cod liver (2.00), herring (2.67), menhaden (1.96), salmon (2.50) and sardine (2.16) all have high ratios (significantly >1) of Omega-3 to Omega-6 fatty acids. The evidence says that a healthy diet should have more omega-3 than omega-6. These fish meet this criterion.