

ASSIGNMENT – B6025

1. Schaumburg Quick Change Oil Company has a number of outlets in the metropolitan Chicago area. The number of oil changes at the Plaza drive outlet in the past 20 days are:

65 **98** 55 62 79 59 **51** 90 72 56
 70 62 66 80 94 79 63 73 71 85

Organize the above data into a frequency distribution.

- How many classes would you recommend and why? $n = 20$ $2^k = 2^5 = 32$
 - What class interval would you suggest? $1 \geq \frac{H-L}{5} = \frac{98-51}{5} \geq 9.4$
- What lower limit would you recommend for the first class?

Organize the number of oil changes into a frequency distribution

Comment on the shape of the frequency distribution. Also determine the relative frequency distribution.

2. The manager of the Argosy Supermarket in Mt. Prospect, in Illinois, gathered the following information on the number of times a customer visits the store during a month. The responses of 51 customers were:

~~5~~ ~~3~~ ~~3~~ ~~1~~ ~~4~~ ~~4~~ ~~5~~ ~~6~~ ~~4~~ ~~2~~ ~~6~~ ~~6~~ ~~6~~ ~~7~~ ~~1~~
~~1~~ 14 ~~1~~ ~~2~~ ~~4~~ ~~4~~ ~~4~~ 5 6 ~~3~~ 5 ~~3~~ 4 5 6
~~8~~ ~~4~~ ~~7~~ ~~6~~ ~~5~~ 9 ~~11~~ ~~3~~ ~~12~~ 4 7 6 5 ~~15~~ ~~1~~
~~1~~ ~~10~~ ~~8~~ ~~9~~ ~~2~~ ~~12~~

- Starting with 0 as the lower limit of the first class and using a class interval of 3, organize the data into a frequency distribution.
- Describe the distribution. Where do the data tend to cluster?
- Convert the distribution to a relative frequency distribution.

3. The food services division of Romeoville amusement park, Inc. is studying the amount families who visit the amusement park spend per day on food and drink. A sample of 40 families who visited the park yesterday revealed they spent the following amounts.

\$77 **\$18** \$63 **\$84** \$38 \$54 \$50 \$59 \$54 \$56 \$36 \$26 \$50 \$34 \$44
 41 58 58 53 51 62 43 52 53 63 62 62 65 61 52
 60 60 45 66 83 71 63 58 61 71

- Organize the data into a frequency distribution, using seven classes and 15 as the lower limit of the first class. What class interval did you select?
- Where do the data tend to cluster?
- Describe the distribution.
- Determine the relative frequency distribution.

15 - 25

25 - 35

35 - 45

45 - 55

55 - 65

65 - 75

75 - 85