Business Intelligence Labwork 1

Question 1

a)

~~19~~, ~~71~~, ~~48~~, ~~63~~, ~~35~~, ~~85~~, ~~69~~, ~~81~~, ~~72~~, ~~88~~, ~~99~~, ~~95~~.
19, 35, 48, 63, 69, 71, 72, 81, 85, 88, 95, 99

1) W=(max-min)/k = (99-19)/3 = 27 | intervals 19 to 46, 47 to 73, 74 to 100
Bin1: 19, 35, 48, 63
Bin2: 69, 71, 72, 81
Bin3: 85, 88, 95, 99

2)
Bin1: 19, 35 [19 - 46]
Bin2: 48, 63, 69, 71, 72 [47 – 73]
Bin3: 81, 85, 88, 95, 99 [74 - 100]

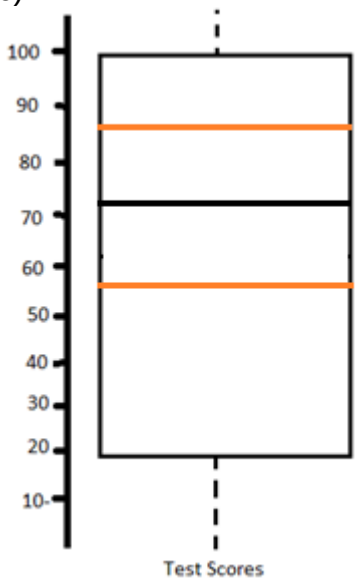
b)

Max: 99
Min: 19
Medium: 72

19, 35, 48, 63, 69, 71 72 72, 81, 85, 88, 95, 99
Q1 Medium Q3

Q1 = (63 + 48) / 2 = 56
Q2 = (88 + 85) / 2 = 87

c)



d)

Mean: 825 / 12 = 69

Standard Deviation:
(19 - 69)2 = 2500
(35 - 69)2 = 1156
(48 - 69)2 = 441
(63 - 69)2 = 36
(69 - 69)2 = 0
(71 - 69)2 = 4
(72 - 69)2 = 9
(81 - 69)2 = 144
(85 - 69)2 = 256
(88 - 69)2 = 361
(95 - 69)2 = 676
(99 - 69)2 = 900

Add all values: 6483 / 12 = 540.25 = 540

Square root: Standard Deviation = s = 23

Question 2

13, 15, 16, 16, 19, 20, 20, 21, 22, 22, 25, 25, 25, 25, 30, 33, 33, 35, 35, 35, 36, 40, 45, 46, 52, 70.

a)
Mean = 752 / 26 = 29
Median = 25

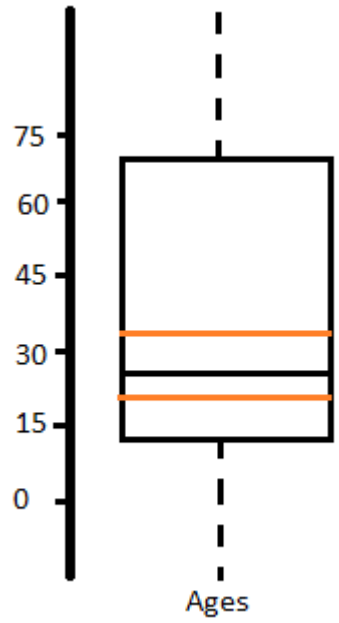
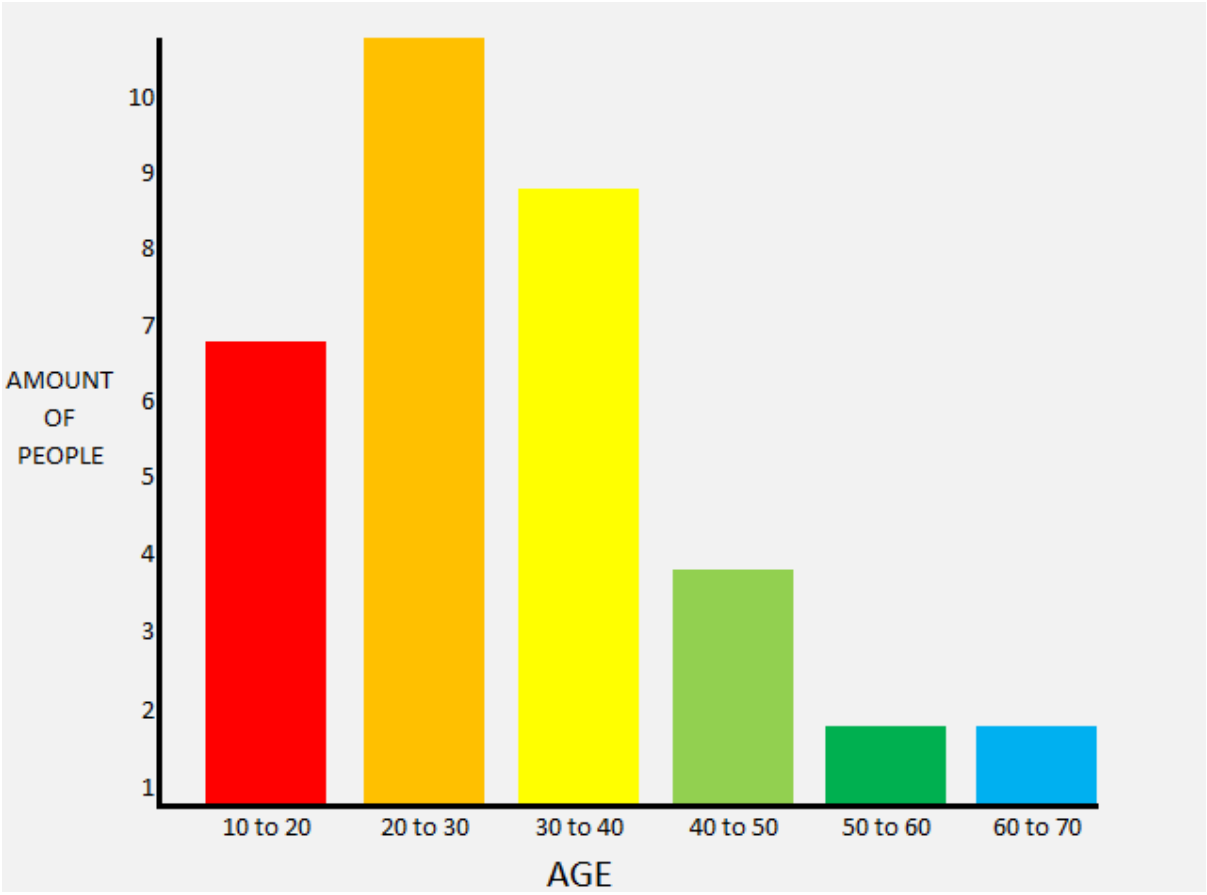
b)
Mode = 25. There are four values which are 25.
Bi-Modality: There is not 2 values which was found in an equal amount of instances.
Tri-Modality: There is not 3 values which was found in an equal amount of instances. 16, 20, 22 and 33 where found in the same amount of instances but that is four values.

c)
Min: 13
Max: 70
Range: 70 – 13 = 57

d)
Q1 = 20
Q3 = 35
IQR = 35 – 20 = 15

e) FNS:
Min: 13
Q1: 20
Median: 25
Q3: 35
Max: 70

f) Box plot



g) Histogram