33. Suppose some car is tested for the AvgSpeed and TotalTime data for 9 randomly selected car with the following result AvgSpeed (in kph) 78 81 82 74 83 82 77 80 70 TotalTime (in mins) 39 37 36 42 35 36 40 38 46 a) Calculate the standard deviation of AvgSpeed and TotalTime. b) Calculate the Variance of AvgSpeed and TotalTime for the above dataset.

avgspeed<-c (78, 81,82,74,83,82,77,80,70)

totaltime<-c(39,37,36,42,35,36,40,38,46)

sd (totaltime)

var (totaltime)

9.Suppose that the data for analysis includes the attribute age. The age values for the data tuples are (in increasing order) 13, 15, 16, 16, 19, 20, 20, 21, 22, 22, 25, 25, 25, 25, 30, 33, 33, 35, 35, 35, 35, 36, 40, 45, 46, 52, 70. Can you find (roughly) the first quartile (Q1) and the third quartile (Q3) of the data?

age<-c(13,15,16,16,19,20,21,22,22,25,25,25,30,35,35, 35,36,40,45,46,70)

summary=(age)

IQM=(age)

print(age)

18.Suppose that a hospital tested the age and body fat data for 18 randomly selected adults with the following results

data<-c(23,23,27,27,39,41,47,49,50,52,54,54,56,57,58,59,60,61)

transform(data,model<-c(minmax))

transform(data,model<-c())

13.Imagine that you have selected data from the All Electronics data warehouse for analysis. The data set will be huge! The following data are a list of All Electronics prices for commonly sold items (rounded to the nearest dollar). The numbers have been sorted: 1, 1, 5, 5, 5, 5, 5, 8, 8, 10, 10, 10, 10, 12, 14, 14, 14, 15, 15, 15, 15, 15, 15, 18, 18, 18, 18, 18, 18, 18, 18, 20, 20, 20, 20, 20, 20, 20, 21, 21, 21, 21, 25, 25, 25, 25, 25, 28, 28, 30, 30, 30. (i) Partition the dataset using an equal-frequency partitioning method with bin equal to 3 (ii) apply data smoothing using bin means and bin boundary. (iii) Plot Histogram for the above frequency division

frequency<-
c(1,1,5,5,5,5,5,8,8,10,10,10,10,12,14,14,14,15,15,15,15,15,15,18,18,18,18,18,18,18,18,20,20,20,20,20,20,20,21,21,21,21,25,25,25,25,25,28,28,30,30,30)

frequency[1:3]

mean(frequency)

```r
bin1<-c(1,1,5,5,5,5,5)
bin1
bin2<-c(21,25,25,28,30)
bin2
hist(frequency)
```