

Lab -6

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library (MASS)

painters

composition <- painters\$Composition

c_composition <- subset(painters,School == "C") #contains subset of painters which contains only school c

mean_composition <- mean(c_composition\$Composition) #mean of composition

mean_composition

abc <- subset(painters,Composition == max(composition)) #contains subset which has max composition

abc\$School #school of max composition

head(faithful) #Preview Of dataframe faithful

duration <- faithful\$eruptions #eruption duration

range(duration) # first wil find range

cut_dur <- cut(duration,seq(1.5,5.5,by=0.5),right = FALSE) #cut as per ranage by interval of 0.5

duration.freq=table(cut_dur) #calculate frequency of range

duration.freq

waiting <- faithful\$waiting #eruption waiting

#same step will do for waiting range seq and cut

range(waiting)

cut_wait <- cut(waiting,seq(40,100,by=5),right = FALSE)

waiting.freq <- table(cut_wait)

waiting.freq

```
colors = c("red", "yellow", "green", "violet", "orange", "blue", "pink", "cyan") #set colours for graph
```

```
hist(duration,right=FALSE,col=colors) #draw histogram for duration
```

```
hist(waiting,right=FALSE,col=colors) #draw histogram for waiting
```

```
duration.relfreq=duration.freq/nrow(faithful) #relative frequency for duration
```

```
waiting.relfreq=waiting.freq/nrow(faithful) #relative frequency for waiting
```

```
waiting.relfreq
```

```
duration.relfreq
```

```
duration.cumil=cumsum(duration.freq) #cumilative frequency of duration
```

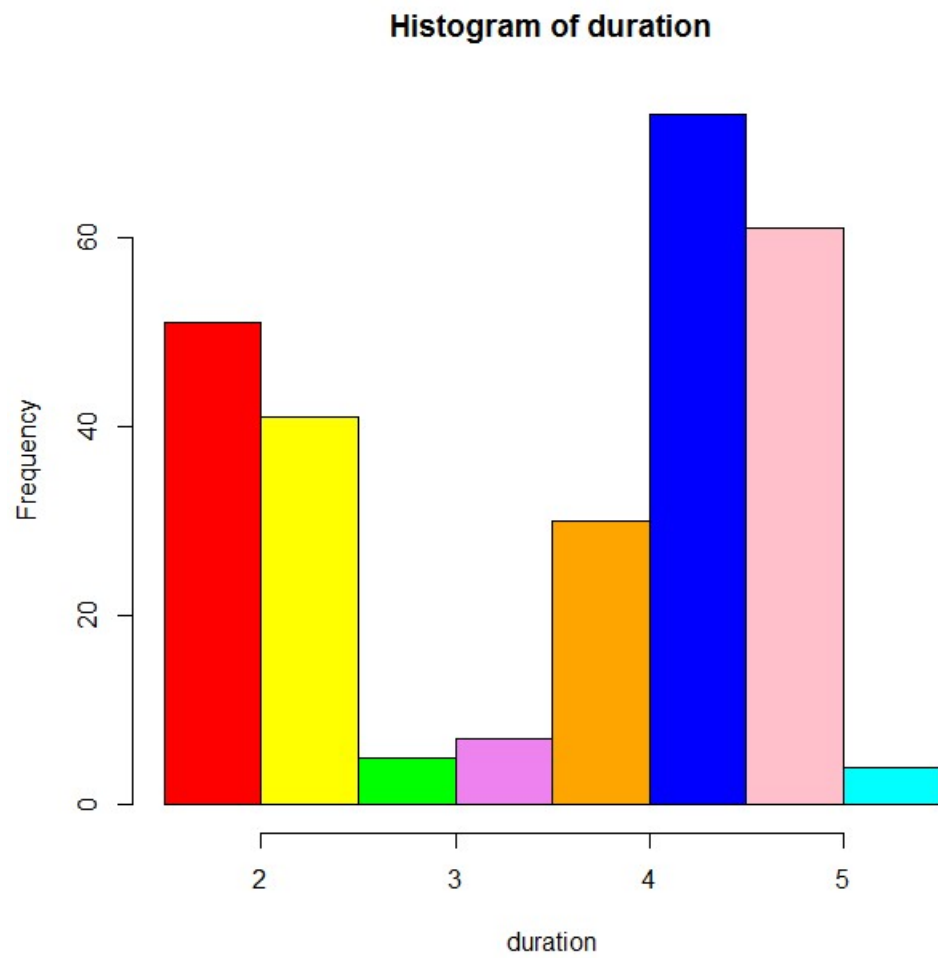
```
waiting.cumil=cumsum(waiting.freq) #cumilative frequency of waiting
```

```
plot(duration,waiting) #scatter plot
```

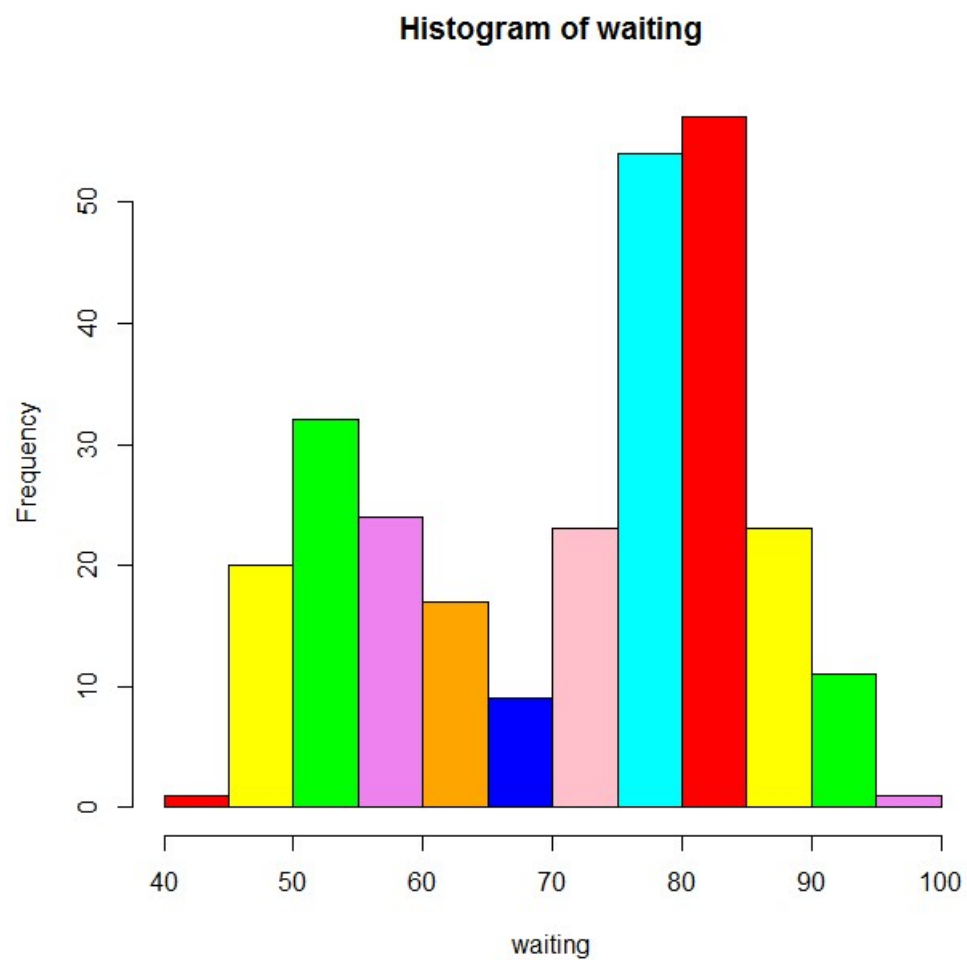
```
stem(duration) #stem and leaf for duration
```

```
stem(waiting) #stem and leaf for waiting
```

Histogram for duration



Histogram for waiting



Steam and leaf for duration

16 | 070355555588

18 | 000022233333335577777777888822335777888

20 | 00002223378800035778

22 | 0002335578023578

24 | 00228

26 | 23

28 | 080

30 | 7

32 | 2337

34 | 250077

36 | 0000823577
38 | 2333335582225577
40 | 0000003357788888002233555577778
42 | 03335555778800233333555577778
44 | 0222233555778000000023333357778888
46 | 0000233357700000023578
48 | 00000022335800333
50 | 0370

Steam and leaf for waitng

4 | 3
4 | 55566666777788899999
5 | 0000011111122222333333444444444
5 | 555555666677788899999999
6 | 00000022223334444
6 | 555667899
7 | 00001111123333333444444
7 | 5555555566666666777777777788888888888888889999999999
8 | 00000000111111111112222222222333333333333344444444444
8 | 55555566666677888888999
9 | 00000012334
9 | 6

Scatter Plot for waiting and duration

