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(a)How many rows are there in this table? How many columns are there?

Ans 5 rows and 20 columns

>nrow(roomsinfo)

[1] 20

>ncol(roominfo)

[1] 5

(b)How to find the number of rows and number of columns by a single command?

Ans > matrix(roomsinfo)

[,1]

[1,] Numeric,20

[2,] Numeric,20

[3,] Numeric,20

[4,]Numeric,20

[5,]Character,20

(c)What are the variables in the data file?

Ans Variable: price,FloorArea,Rooms,Age,CentralHeating,roomsinfo

› ls(roomsinfo)
[1]"Age" "CentralHeating" "FloorArea" "price"

[5]"Rooms"

(d)If the file is very large, naturally we can not simply type 'a', because it will cover the entire screen and we won't be able to understand anything. So how to see the top or bottom few lines in this file?

Ans roomsinfo [1,]

price FloorArea Rooms Age Centralheating

1 52 1225 3 6 Yes

roomsinfo [20,]

price FloorArea Rooms Age Centralheating

20 92 1225 7 3 Yes

(e)If the number of columns is too large, again we may face the same problem. So how to see the first 5 rows and first three columns?

Ans >roomsinfo[1:5,1:3]

	price	floorArea	rooms
1	52.00	1225	3
2	54.00	1230	3
3	57.50	1200	3
4	57.50	1000	2
5	59.75	1420	4

(f)How to get 1st, 3rd, 6th, and 10th row and 2nd, 4th, and 5th columns?

>roomsinfo[c(1,2,6,10),c(2,4,5)]

	FloorArea	Age	centralHeating
1	1225	6.2	YES
3	1200	4.2	NO
6	1450	5.2	YES
10	1550	5.7	NO

(g)How to get values in a specific row or a column?

>roomsinfo [5,]

	Price	FloorArea	rooms	age	CentralHeating
5	59.75	1420	4	1.9	YES

>roomsinfo [,4]

[1] 6.2 7.5 4.2 4.8 1.9 5.2 6.5 9.2 0.0 5.7 7.3 4.5 6.8 0.7 5.6 2.3 6.7 3.4 5.6

[20] 3.4

Q.3)Calculate simple statistical measures using the values in the data file.

a)Find means, medians, standard deviations of Price, Floor Area, Rooms,and Age.

Ans

```
>mean(roomsinfo$price)
[1] 71.55
>median(roomsinf$price)
[1] 69.875
>sd(roomsinfo$price)
[1] 12.2664
>mean(roomsinfo$age)
[1] 4.875
>median(roomsinfo$age)
[1] 5.4
>sd(roomsinfo$age)
[1] 2.366182
>mean(roomsinfo$floorArea)
[1] 1610.75
>median(roomsinfo$floorArea)
[1] 1605
>sd(roomsinfo$floorArea)
[1] 331.9649
>mean(roomsinfo$rooms)
[1] 5
>median(roomsinfo$rooms)
[1] 5.5
>sd(roomsinfo$rooms)
```

[1] 1.6543

b)How many houses have central heating and how many don't have?

Ans

```
>sum(roomsinfo$centralHeating=="YES")
```

[1] 10

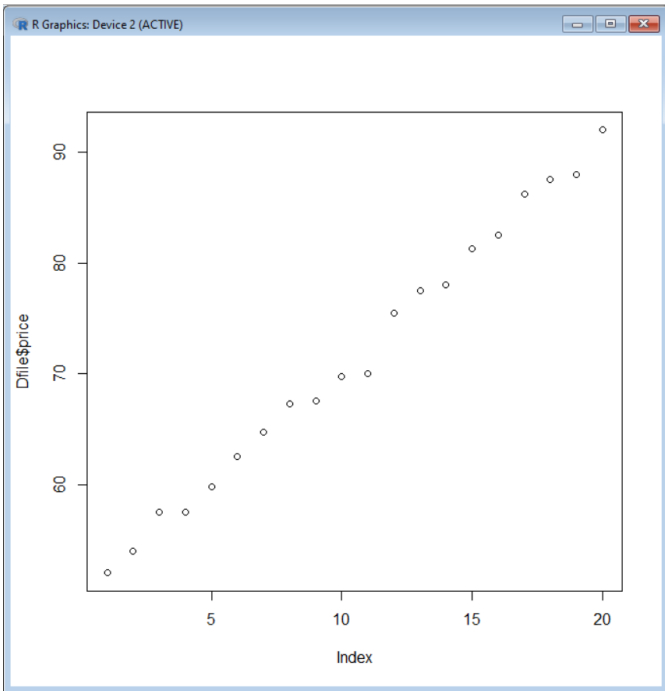
```
>sum(roomsinfo$centralHeating=="NO")
```

[1] 10

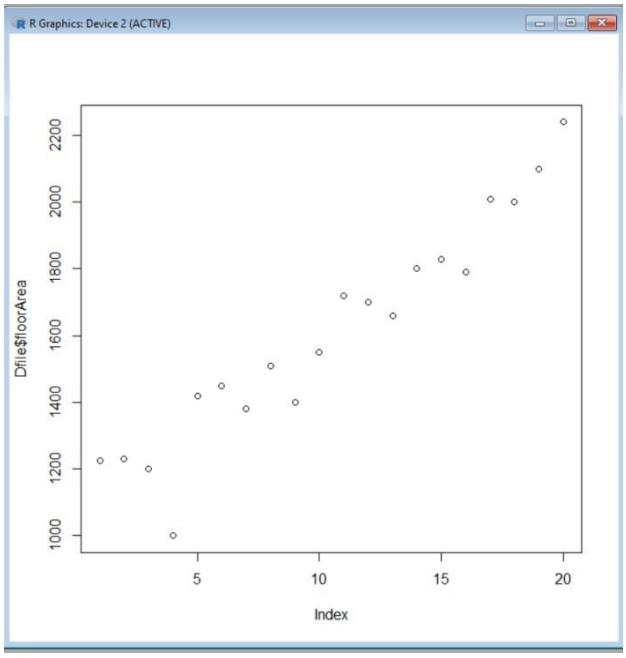
>

c) Plot Price vs. Floor, Price vs. Age, and Price vs. Rooms, in separategraphs.

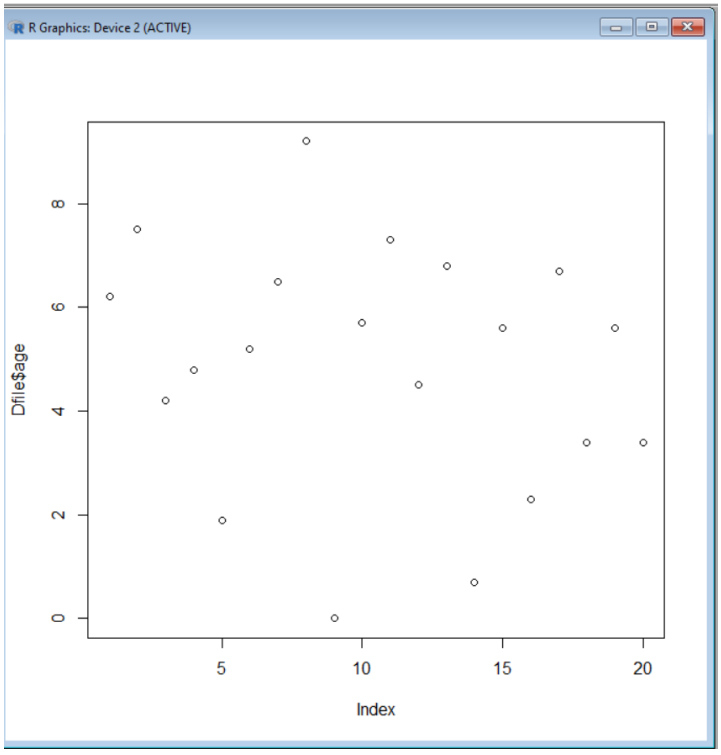
```
>plot(roomsinfo$price)
```




```
>plot(roomsinfo$floorArea)
```

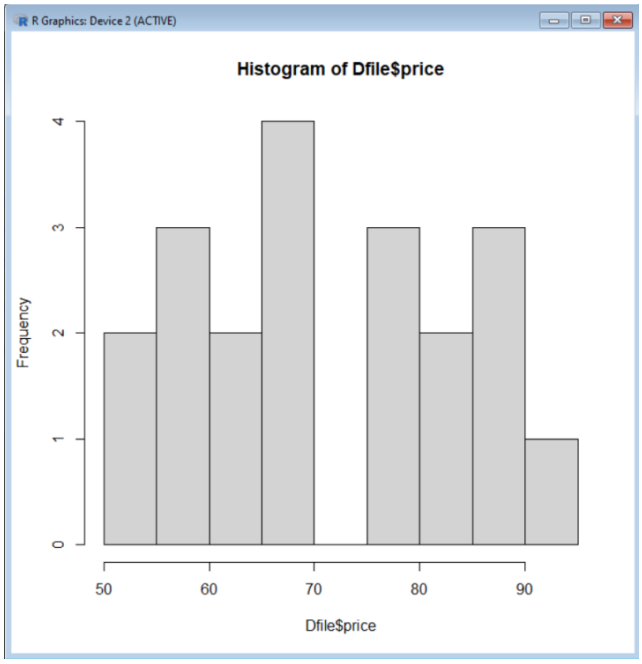


>plot(roomsinfo$age)

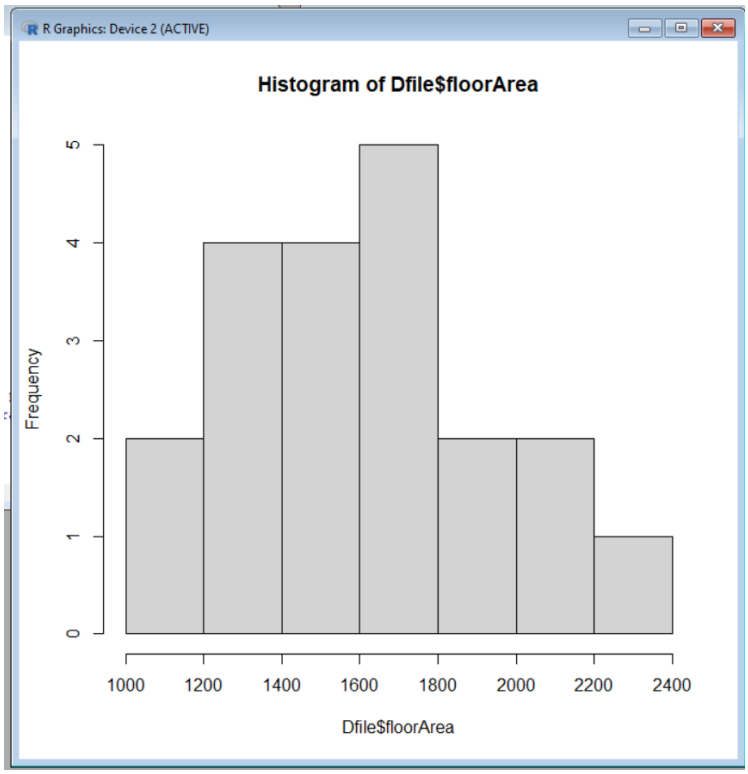


d)Draw histograms of Prices, Floor Area, and Age.

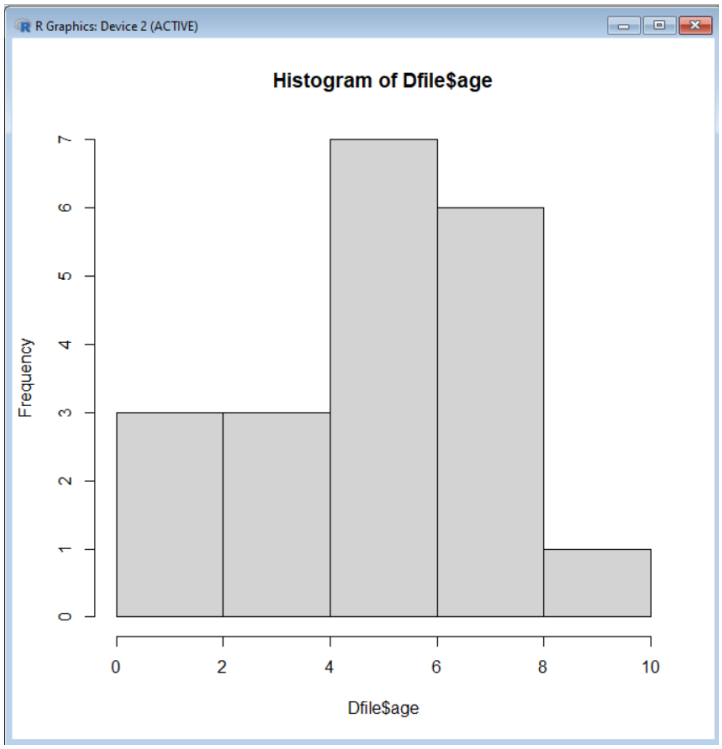
>hist(roomsinfo$price)



>hist(roomsinfo$floorArea)

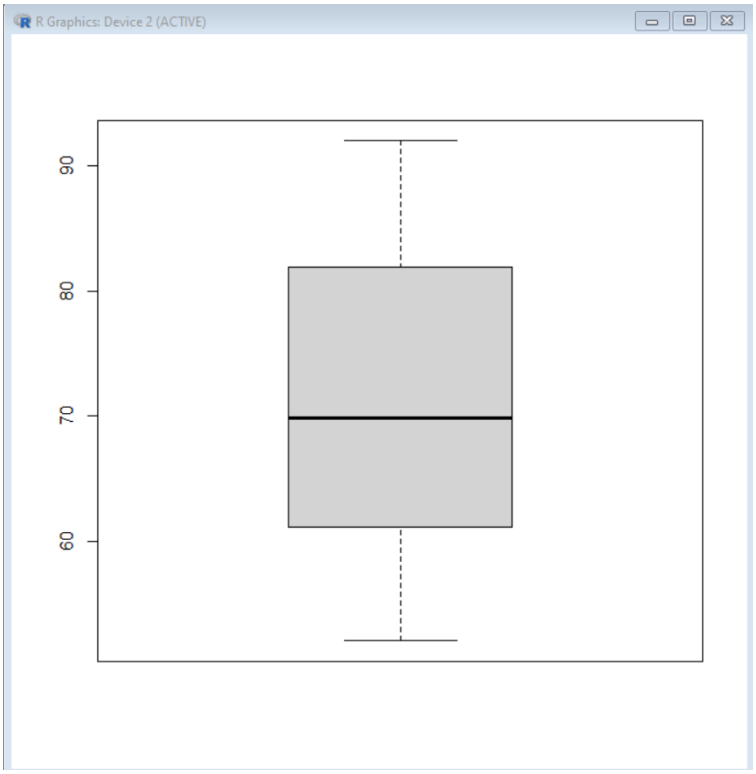


>hist(roomsinfo$age)

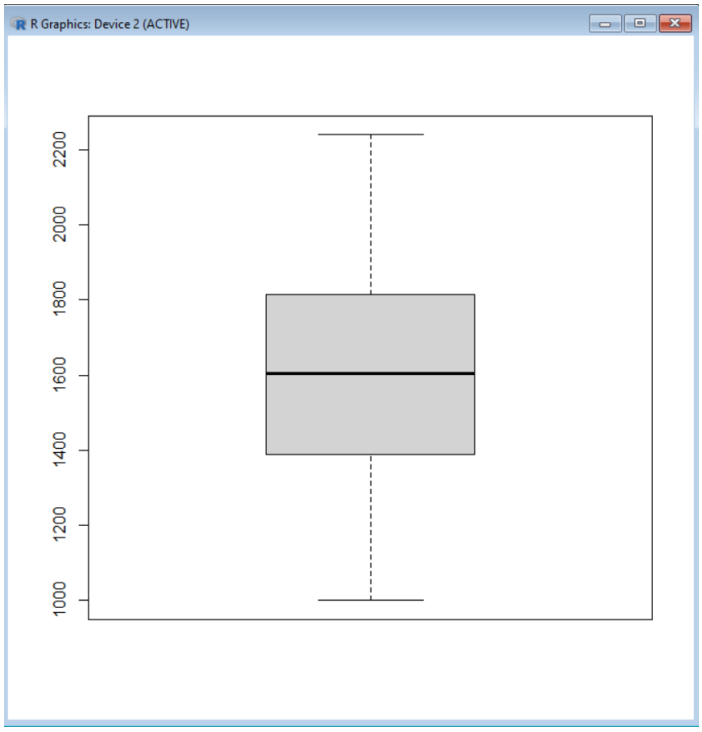


e)Draw box plots of Price, Floor Area, and Age.

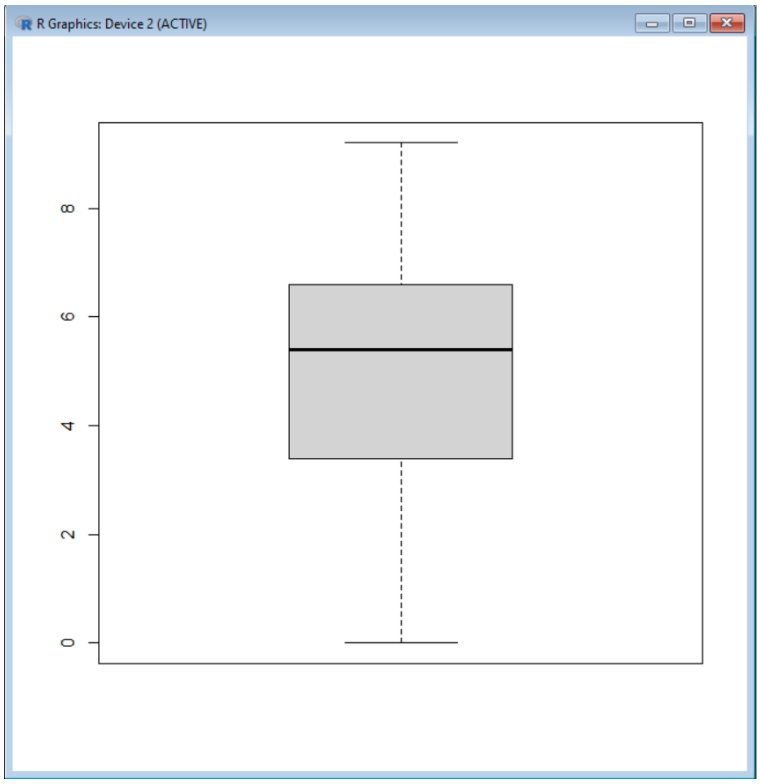
>boxplot(roomsinfo$price)



>boxplot(roomsinfo$floorArea)

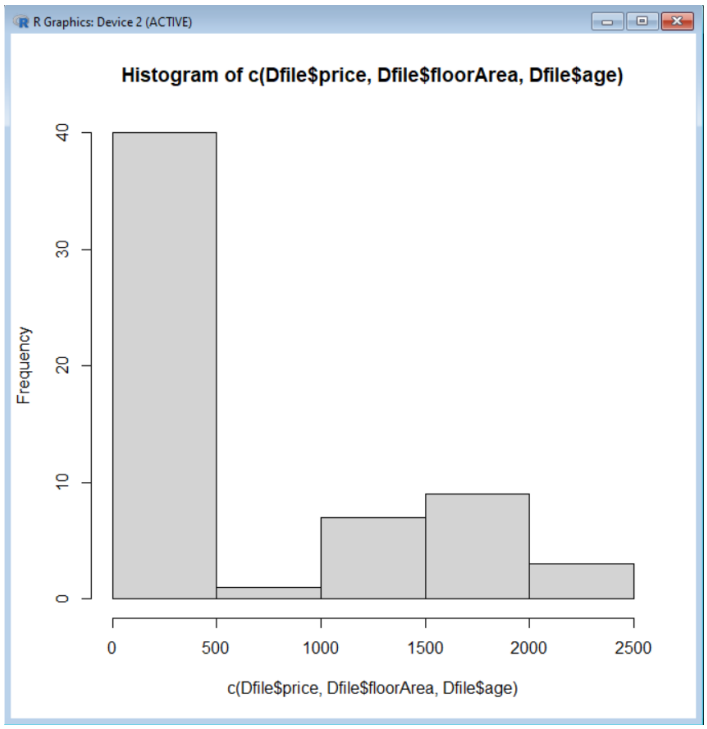


>boxplot(roomsinfo$age)

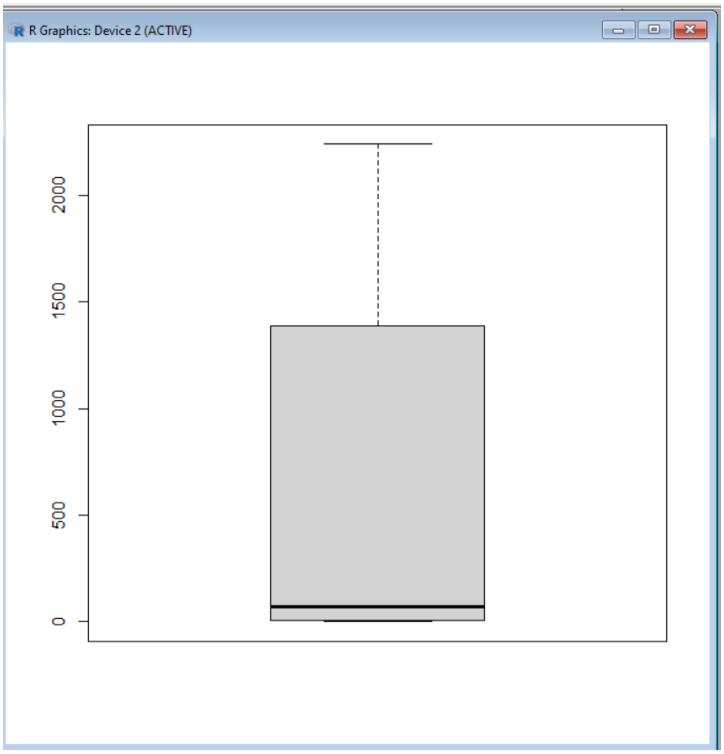


(f.) Draw all the graphs in (c), (d), and (e) in the same graph paper.

hist(c(roomsinfo$price, roomsinfo$floorArea, roomsinfo$age)



>boxplot(c(roomsinfo$price, roomsinfo$floorArea, roomsinfo$age))



>plot(c(roomsinfo$price, roomsinfo$floorArea, roomsinfo$age))