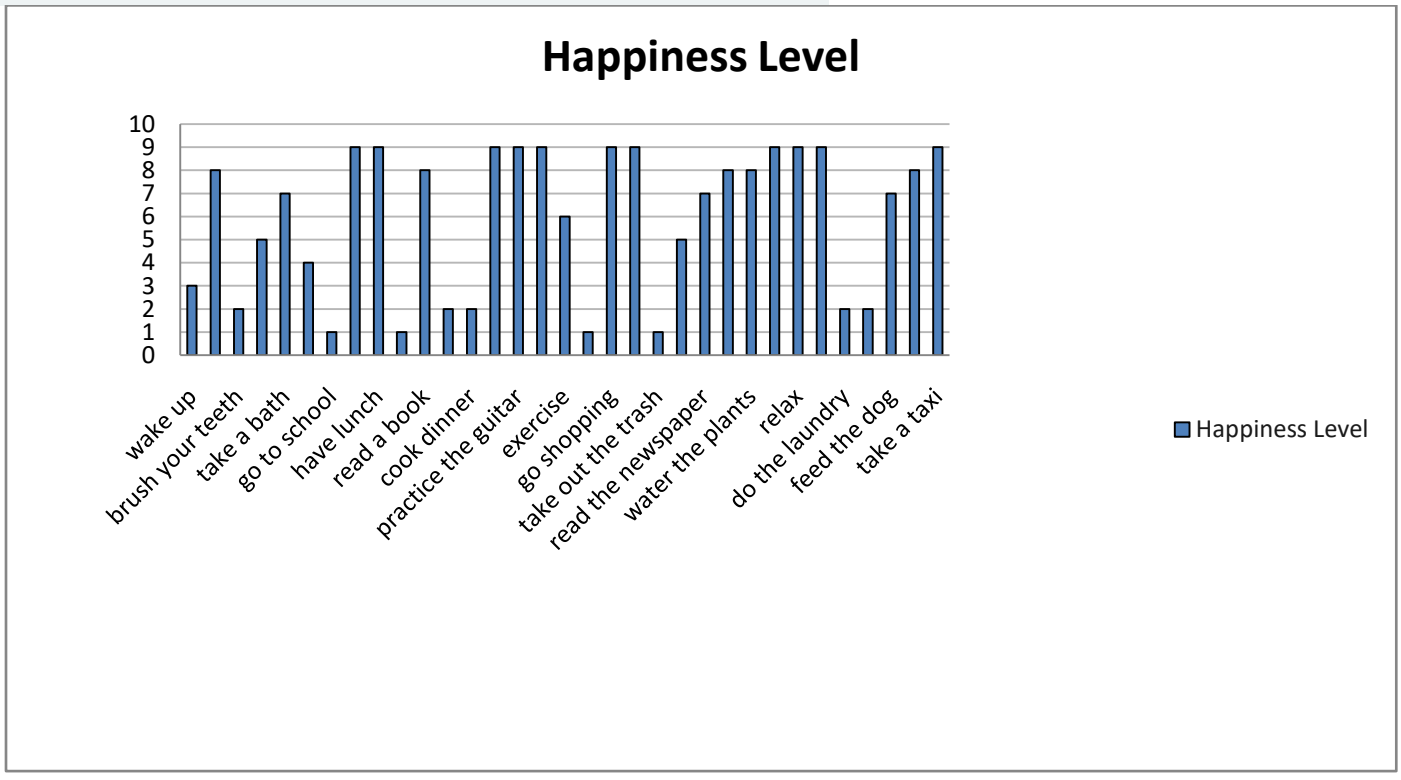
ARYAMAN MISHRA 19BCE1027
LAB 1

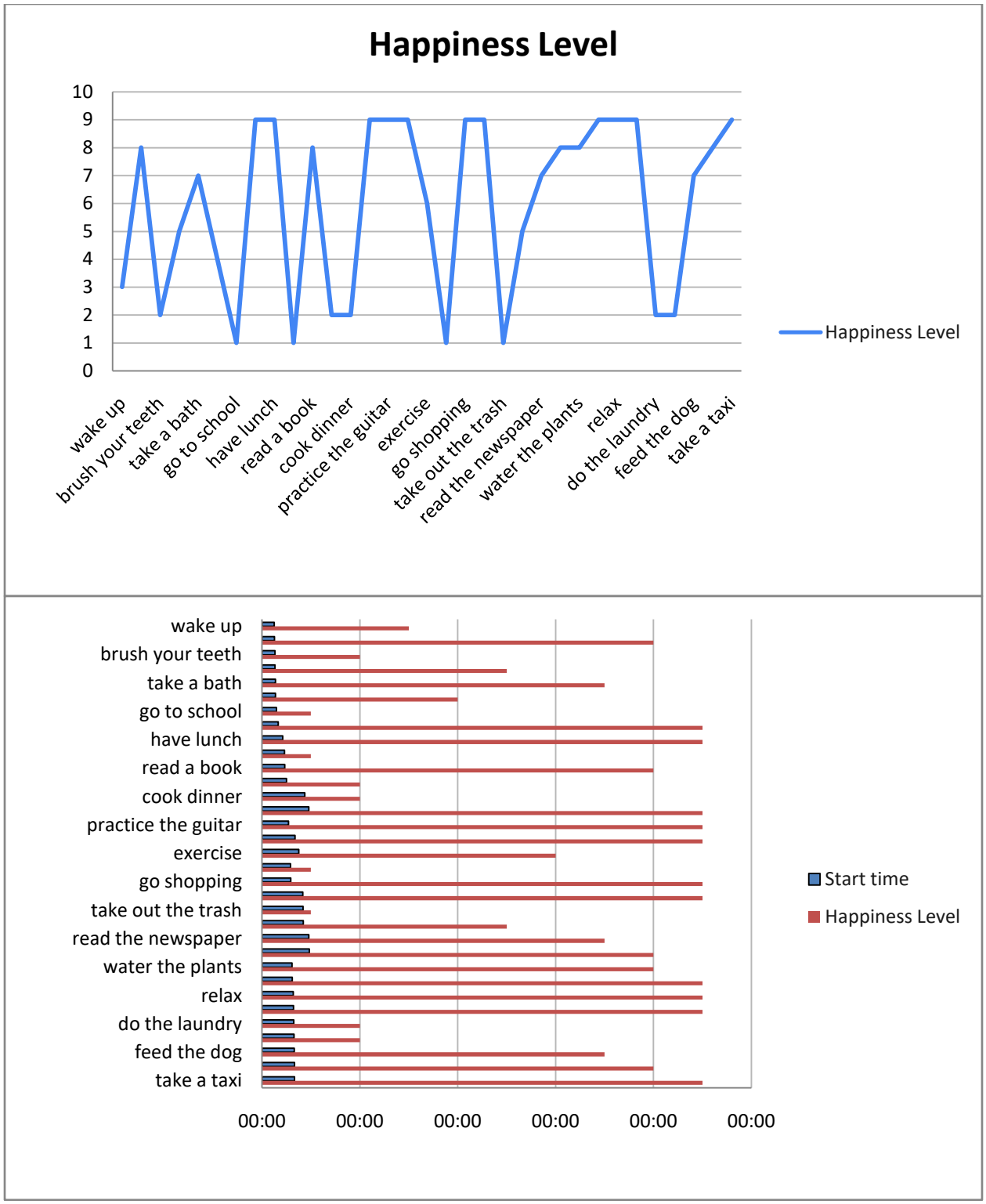
Column , Bar, Line, Scatter Chart, Waterfall chart, Area Chart, waterfall chart

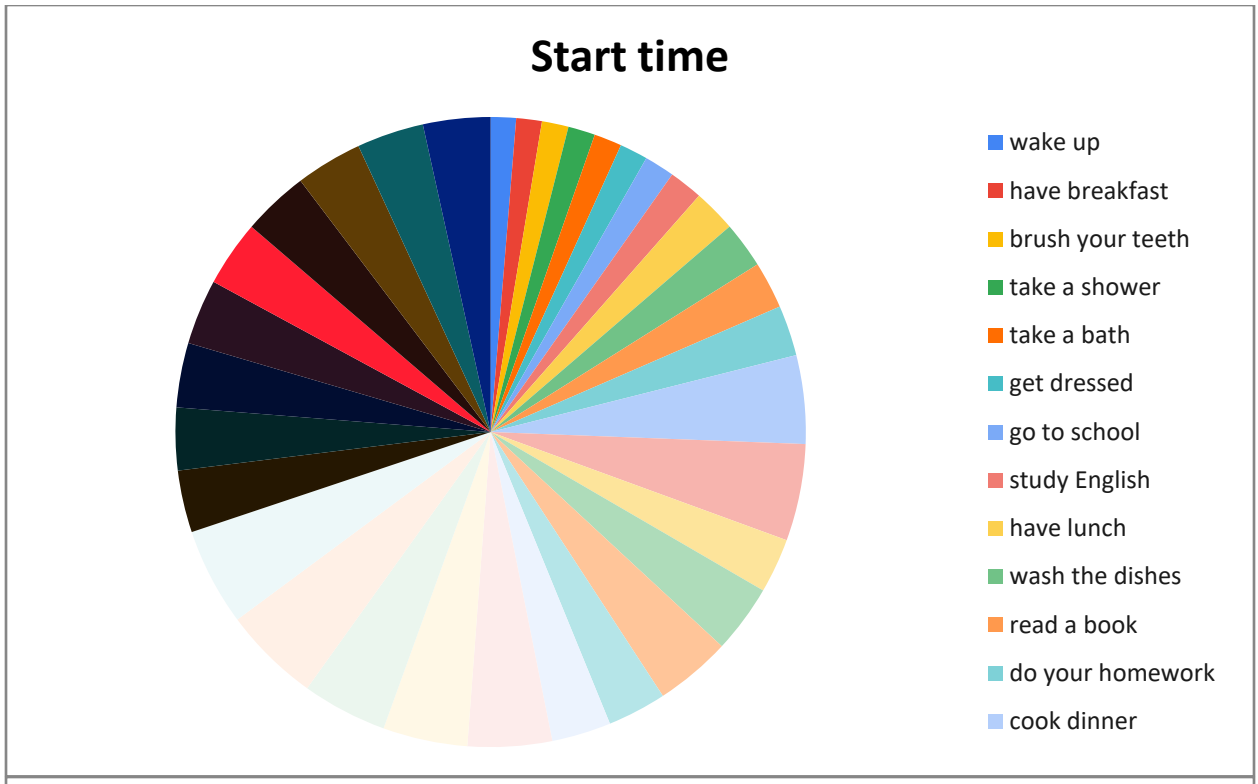
Charts have been made in Sheet 2,3,4,5,6,7

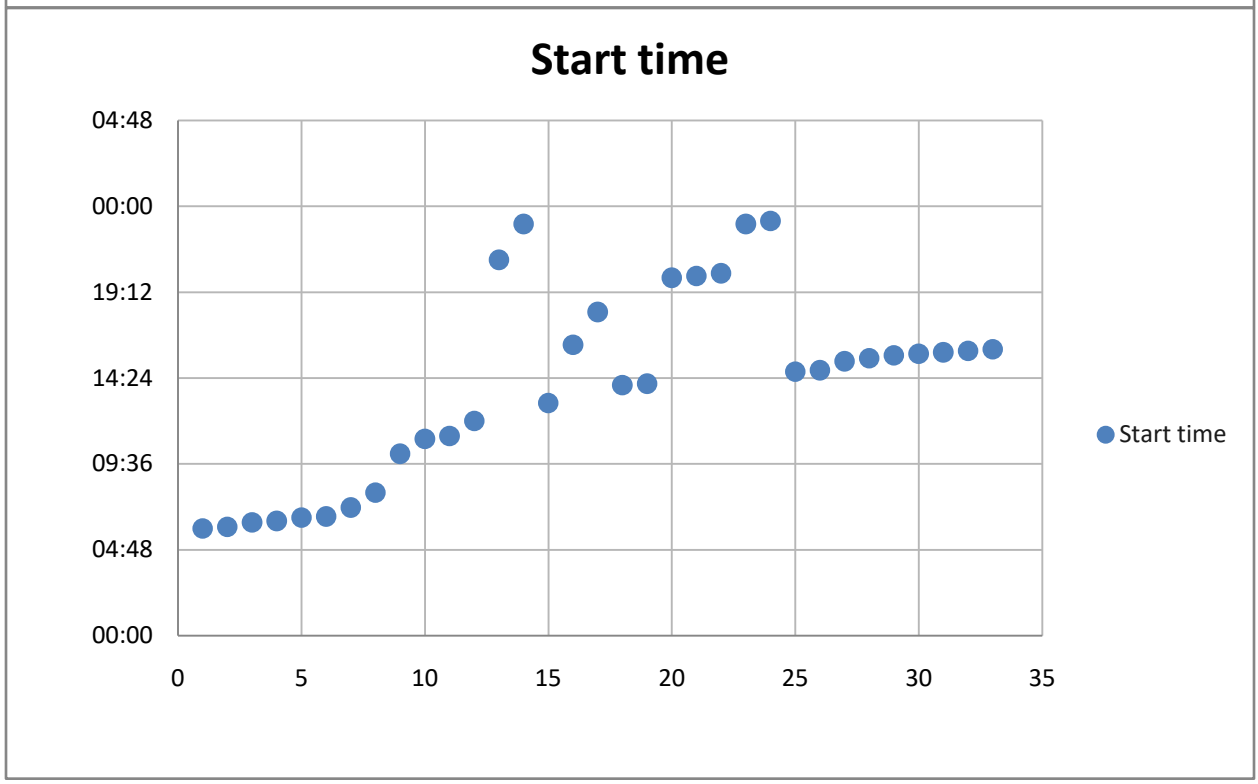
Activity	Start time	End Time	Happiness Level
wake up	06:00	06:02	3
have breakfast	06:05	06:15	8
brush your teeth	06:20	06:23	2
take a shower	06:25	06:35	5
take a bath	06:36	06:40	7
get dressed	06:40	07:00	4
go to school	07:10	07:30	1
study English	08:00	08:40	9
have lunch	10:10	10:30	9
wash the dishes	11:00	11:10	1
read a book	11:10	11:50	8
do your homework	12:00	13:00	2
cook dinner	21:00	21:30	2
go to bed	23:00	05:59	9
practice the guitar	13:00	13:30	9
play with friends	16:15	18:00	9
exercise	18:05	19:00	6
brush your hair	14:00	14:02	1
go shopping	14:05	14:45	9
go for a walk	20:00	20:05	9
take out the trash	20:06	20:10	1
clean the house	20:15	20:30	5
read the newspaper	23:00	23:10	7
surf the internet	23:10	23:30	8
water the plants	14:45	14:50	8
watch TV	14:50	15:20	9
relax	15:20	15:30	9
listen to music	15:30	15:40	9
do the laundry	15:40	15:45	2
iron the clothes	15:45	15:50	2
feed the dog	15:50	15:55	7
walk the dog	15:55	16:00	8
take a taxi	16:00	16:15	9

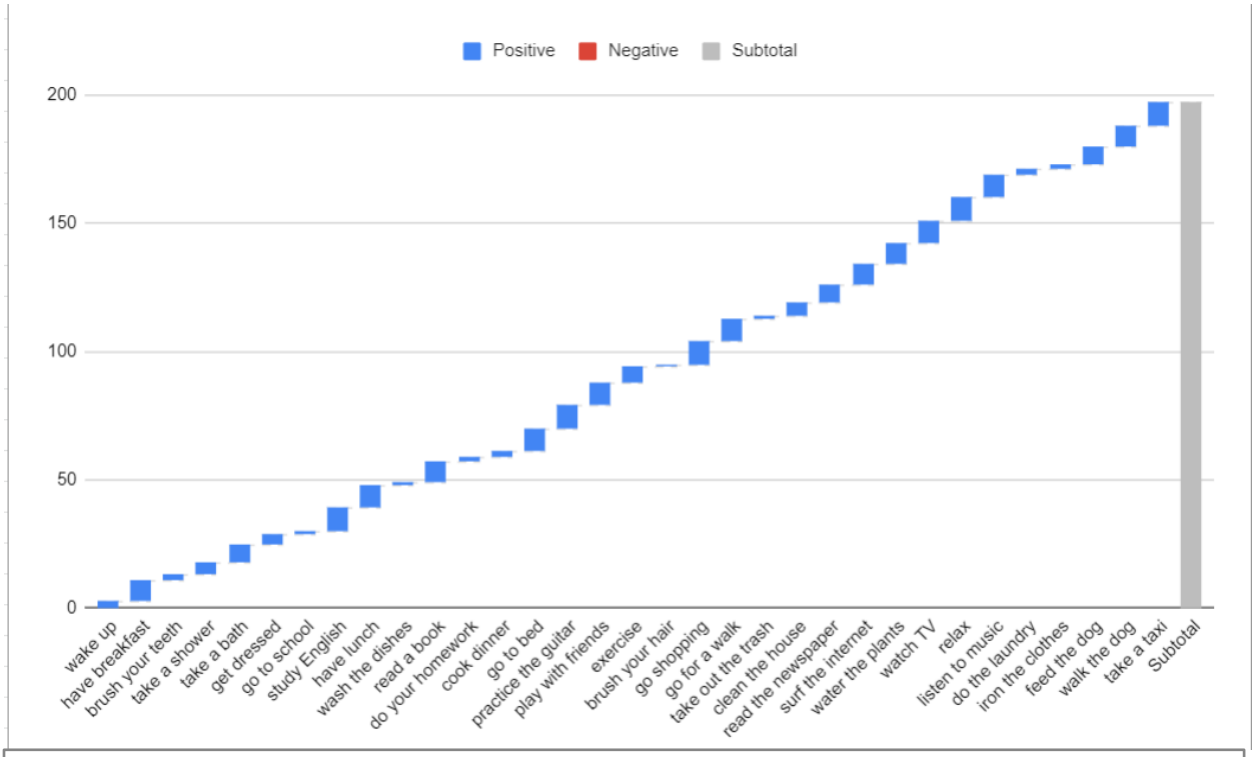
Numbers Sheet Name	Numbers Table Name	Excel Worksheet Name
Sheet2		
	Column Chart	Sheet2
Sheet3		
	Line Chart	Sheet3
Sheet4		
	Bar Chart	Sheet4
Sheet5		
	Pie Chart	Sheet5
Sheet6		
	Scatter Chart	Sheet6
Sheet7		
	Waterfall Chart	Sheet7
Sheet8		
	Area Chart	Sheet8




Happiness Level
10
9
8
7
6
5
4
3
2
1
0
wake up
brush your teeth
take a bath
go to school
have lunch
read a book
cook dinner
practice the guitar
exercise
go shopping
take out the trash
read the newspaper
water the plants
relax
do the laundry
feed the dog
take a taxi
Happiness Level
wake up
brush your teeth
take a bath
go to school
have lunch
read a book
cook dinner
practice the guitar
exercise
go shopping
take out the trash
read the newspaper
water the plants
relax
do the laundry
feed the dog
take a taxi
00:00
00:00
00:00
00:00
00:00
00:00
Start time
Happiness Level


Start time
wake up
have breakfast
brush your teeth
take a shower
take a bath
get dressed
go to school
study English
have lunch
wash the dishes
read a book
do your homework
cook dinner


Start time
04:48
00:00
19:12
14:24
09:36
04:48
00:00
0
5
10
15
20
25
30
35
Start time


Positive
Negative
Subtotal
200
150
100
50
0
wake up
have breakfast
brush your teeth
take a shower
take a bath
get dressed
go to school
study English
have lunch
wash the dishes
read a book
do your homework
cook dinner
go to bed
practice the guitar
play with friends
exercise
brush your hair
go shopping
go for a walk
take out the trash
clean the house
read the newspaper
surf the internet
water the plants
watch TV
relax
listen to music
do the laundry
iron the clothes
feed the dog
walk the dog
take a taxi
Subtotal


Happiness Level
10
9
8
7
6
5
4
3
2
1
0
Happiness Level
06:02
06:15
06:23
06:35
06:40
07:00
07:30
08:40
10:30
11:10
11:50
13:00
21:30
05:59
13:30
18:00
19:00
14:02
14:45
20:05
20:10
20:30
23:10
23:30
14:50
15:20
15:30
15:40
15:45
15:50
15:55
16:00
16:15
teeth
dishes
homework
guitar
friends
trash
newspaper
plants
clothes

ARYAMAN MISHRA 19BCE1027

LAB 2

CODE

```
mat= c(18,18,29,20,20,29,18)

print(mat)

age=10

print(age)

t=table(mat)

print(t)

mat= c(18,18,19,20,20,19,18)

print(length(mat))

print(table(mat))

df=read.csv("C:\\Users\\aryam\\Desktop\\Fall Sem 2021\\Data Visualization Lab\\LAB 2 10-8-21\\HRDataset_v14.csv")

print(df)

print(ncol(df))

print(length(df))

print(nrow(df))

names(df)

unique(df$MaritalDesc)

barplot(df$Salary)

barplot(df$Salary, main="Salary of Employees", xlab="Employees", ylab="Salary in Rs.")

plot(df$EmpID,df$Salary) # Scatter plot

plot(df$EmpID,df$Salary, type='l')
```

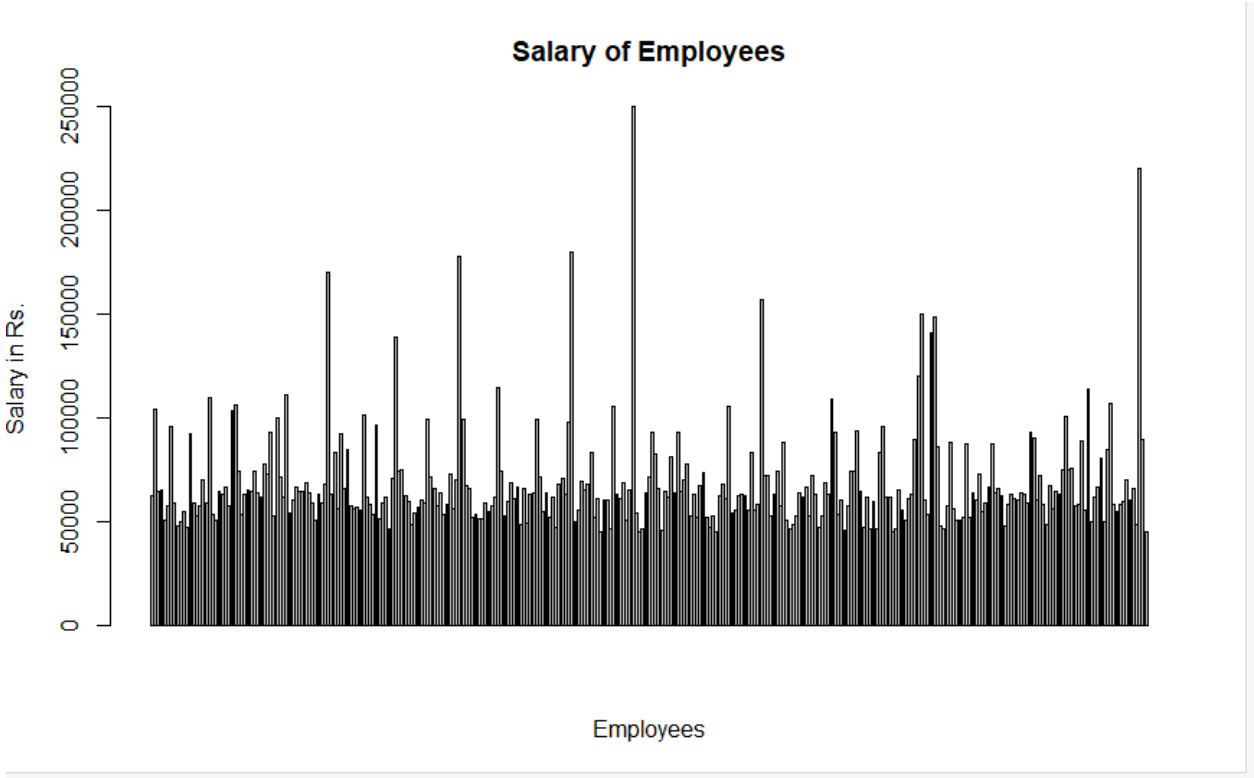
```
barplot(table(mat),main="Age Count of 10 Students",
xlab="Age",ylab="Count",border="red",col="blue",density=30)
```

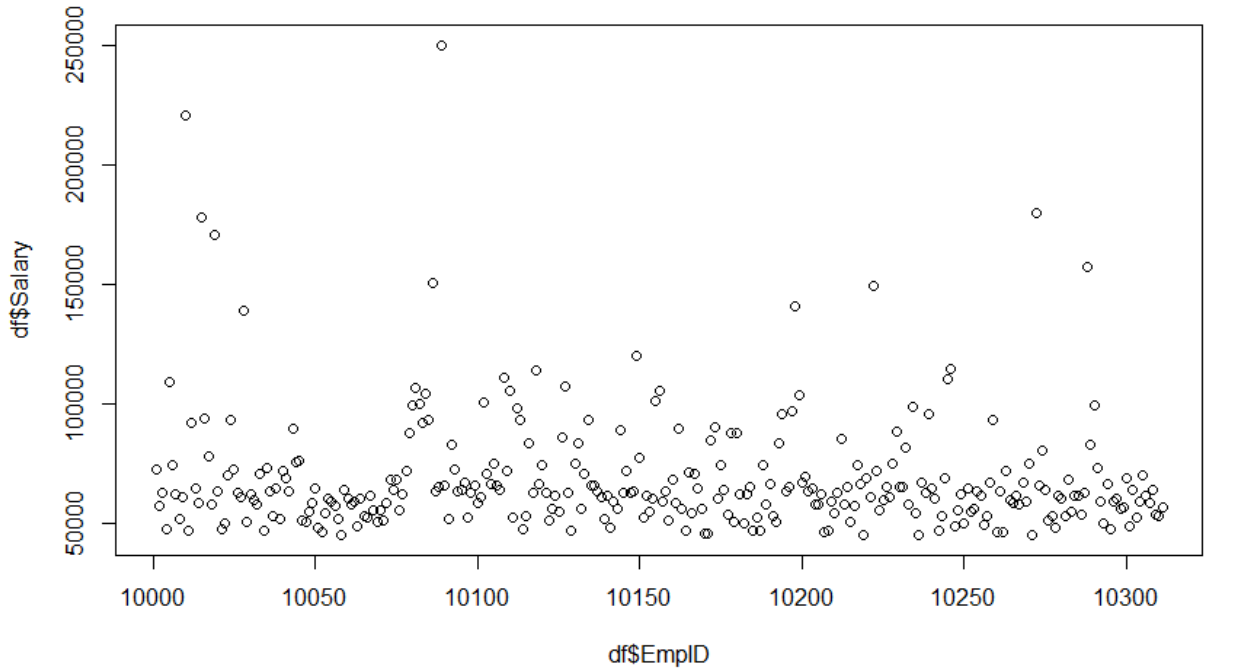
CONSOLE:

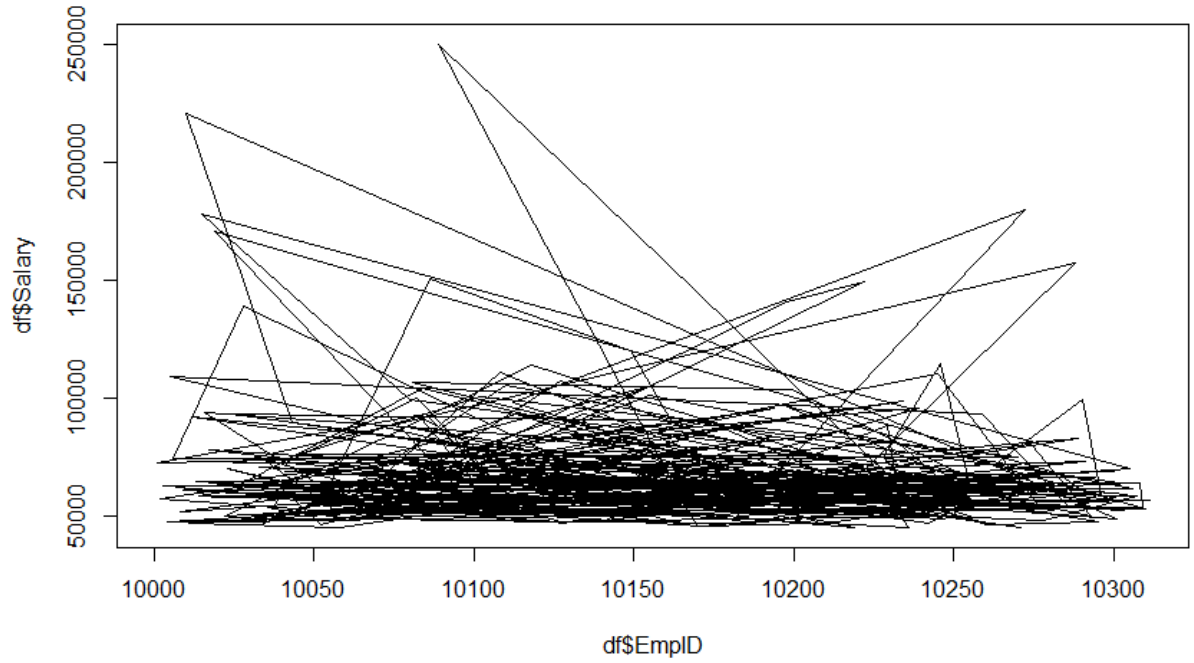
```
mat= c(18,18,29,20,20,29,18)

> print(mat)

[1] 18 18 29 20 20 29 18

> age=10

> print(age)

[1] 10

> t=table(mat)

> print(t)

mat

18 20 29

 3  2  2

> mat= c(18,18,19,20,20,19,18,20,19,18)

> print(length(mat))

[1] 10

> print(table(mat))

mat

18 19 20

 4  3  3

> df=read.csv("C:\\Users\\aryam\\Desktop\\Fall Sem 2021\\Data Visualization Lab\\LAB 2 10-8-
21\\HRDataset_v14.csv")

> print(df)

print(ncol(df))

[1] 36
```

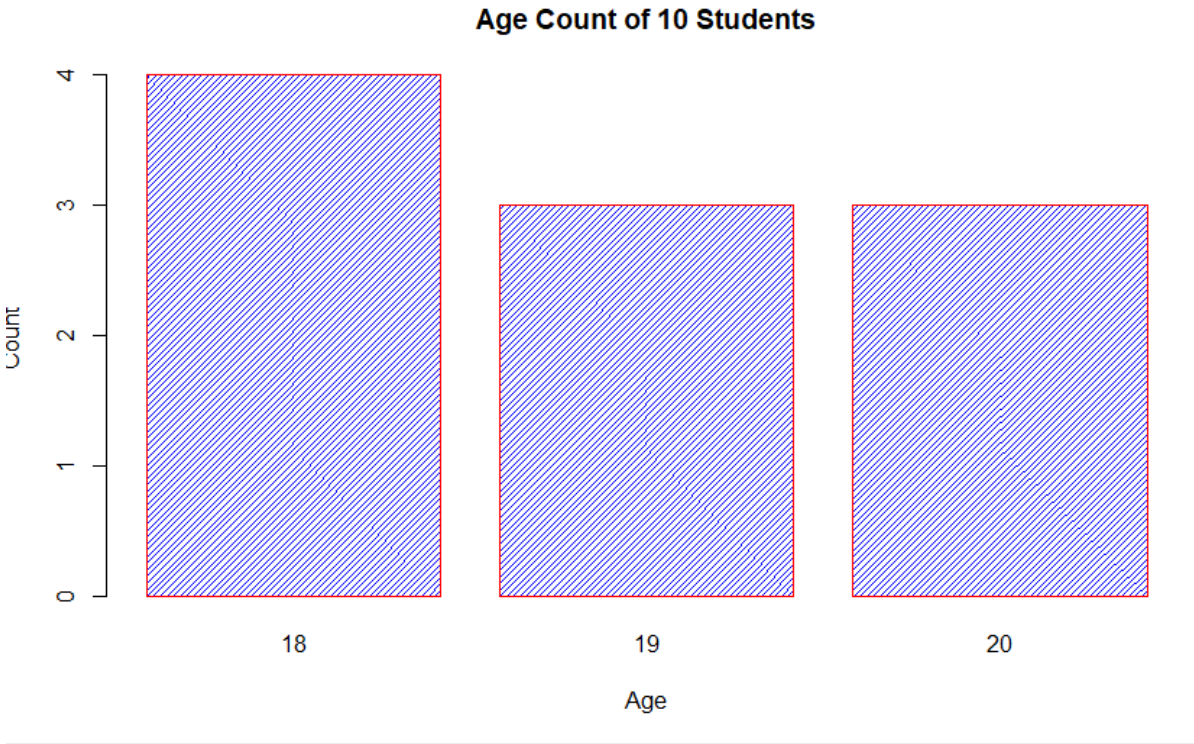
```
> print(length(df))
[1] 36
> print(nrow(df))
[1] 311
> names(df)
 [1] "ï..Employee_Name"          "EmpID"                  "MarriedID"              "MaritalStatusID"
 [5] "GenderID"                  "EmpStatusID"            "DeptID"                 "PerfScoreID"
 [9] "FromDiversityJobFairID"    "Salary"                 "Termd"                  "PositionID"
[13] "Position"                  "State"                  "Zip"                    "DOB"
[17] "Sex"                       "MaritalDesc"            "CitizenDesc"            "HispanicLatino"
[21] "RaceDesc"                  "DateofHire"             "DateofTermination"      "TermReason"
[25] "EmploymentStatus"          "Department"             "ManagerName"            "ManagerID"
[29] "RecruitmentSource"         "PerformanceScore"       "EngagementSurvey"       "EmpSatisfaction"
[33] "SpecialProjectsCount"      "LastPerformanceReview_Date" "DaysLateLast30"         "Absences"
> unique(df$MaritalDesc)
[1] "Single"    "Married"   "Divorced"  "Widowed"   "Separated"
> barplot(df$Salary)
> barplot(df$Salary, main="Salary of Employees", xlab="Employees", ylab="Salary in Rs.")
> plot(df$EmpID,df$Salary) # Scatter plot
> plot(df$EmpID,df$Salary, type='l')
> barplot(table(mat),main="Age Count of 10 Students",
xlab="Age",ylab="Count",border="red",col="blue",density=30)
>
```

PLOT:


Salary of Employees
Salary in Rs.
0
50000
100000
150000
200000
250000
Employees


df$Salary
50000
100000
150000
200000
250000
10000
10050
10100
10150
10200
10250
10300
df$EmpID


df$Salary
50000
100000
150000
200000
250000
10000
10050
10100
10150
10200
10250
10300
df$EmplD


Age Count of 10 Students
Count
0
1
2
3
4
18
19
20
Age

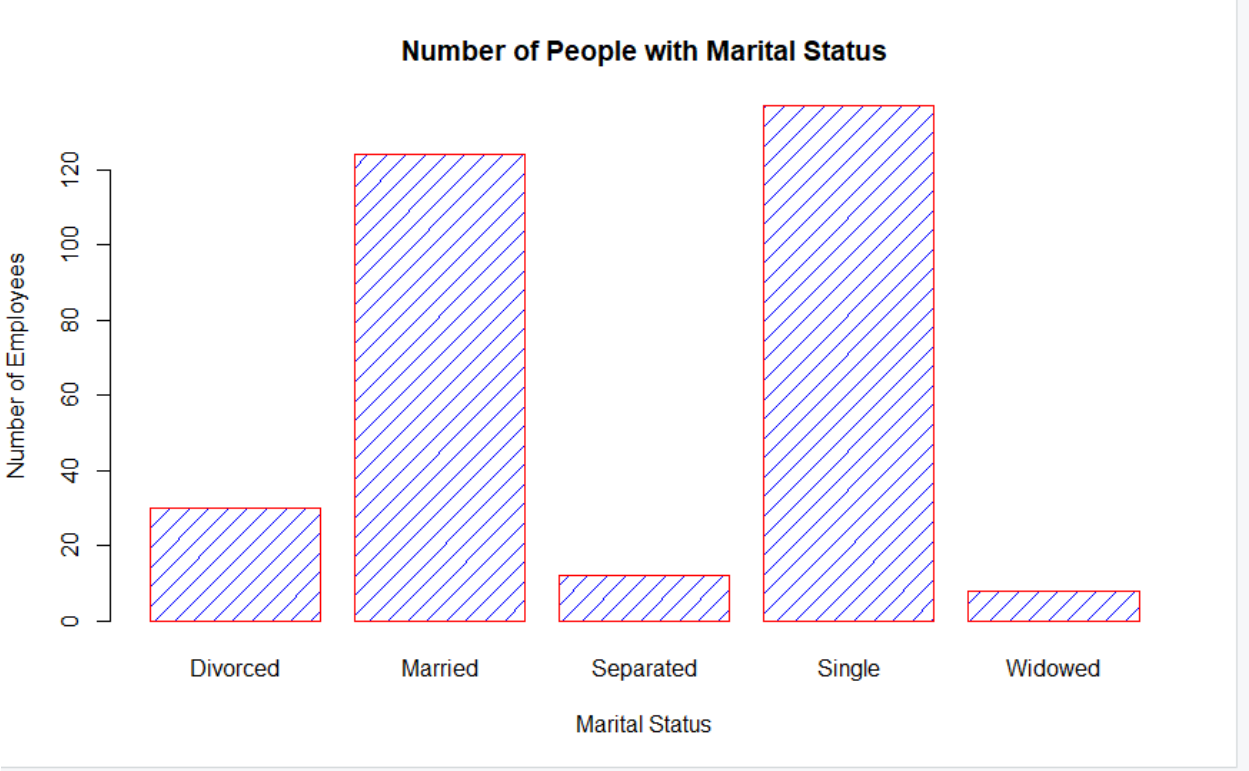
```
df=read.csv("C:\\Users\\aryam\\Desktop\\Fall Sem 2021\\Data Visualization Lab\\LAB 2 10-8-21\\HRDataset_v14.csv")

df2=unique(df$MaritalDesc)

df2

df3=df$MaritalDesc

df3

table(df3)

barplot(table(df3),

    main="Number of People with Marital Status",

    xlab="Marital Status",

    ylab="Number of Employees",

    border="red",

    col="blue",

    density=10

)
```

CONSOLE:

```
> df=read.csv("C:\\Users\\aryam\\Desktop\\Fall Sem 2021\\Data
Visualization Lab\\LAB 2 10-8-21\\HRDataset_v14.csv")
> df2=unique(df$MaritalDesc)
> df2
[1] "Single"    "Married"   "Divorced"  "Widowed"   "Separated"
> df3=df$MaritalDesc
> df3
  [1] "Single"    "Married"   "Married"   "Married"   "Divorced"
"Single"    "Single"    "Widowed"   "Single"
 [10] "Divorced"  "Married"   "Married"   "Divorced"  "Single"
"Divorced"  "Single"    "Married"   "Single"
 [19] "Single"    "Single"    "Single"    "Divorced"  "Married"
"Single"    "Single"    "Single"    "Married"
 [28] "Single"    "Married"   "Married"   "Single"
"Separated" "Married"   "Single"    "Married"   "Single"
 [37] "Single"    "Single"    "Single"    "Single"    "Single"
"Single"    "Married"   "Single"    "Single"
```

```
 [289] "Married"   "Divorced"  "Divorced"  "Single"    "Married"
"Married"   "Single"    "Single"    "Married"
[298] "Single"    "Single"    "Widowed"   "Single"    "Married"
"Divorced"  "Single"    "Single"    "Single"
[307] "Single"    "Single"    "Single"    "Single"    "Widowed"
> table(df3)
df3
 Divorced   Married Separated    Single   Widowed
       30       124        12       137         8
> barplot(table(df3),
+         main="Number of People with Marital Status",
+         xlab="Marital Status",
+         ylab="Number of Employees",
+         border="red",
+         col="blue",
+         density=10
+ )
>
```

Plot:



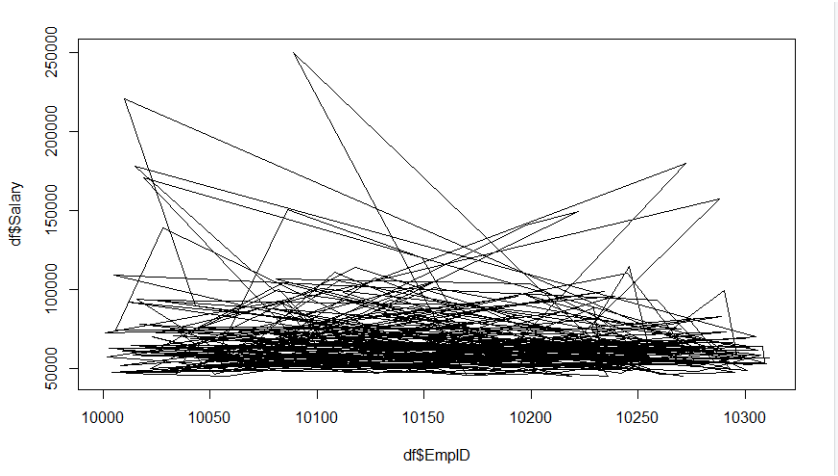
CODE:

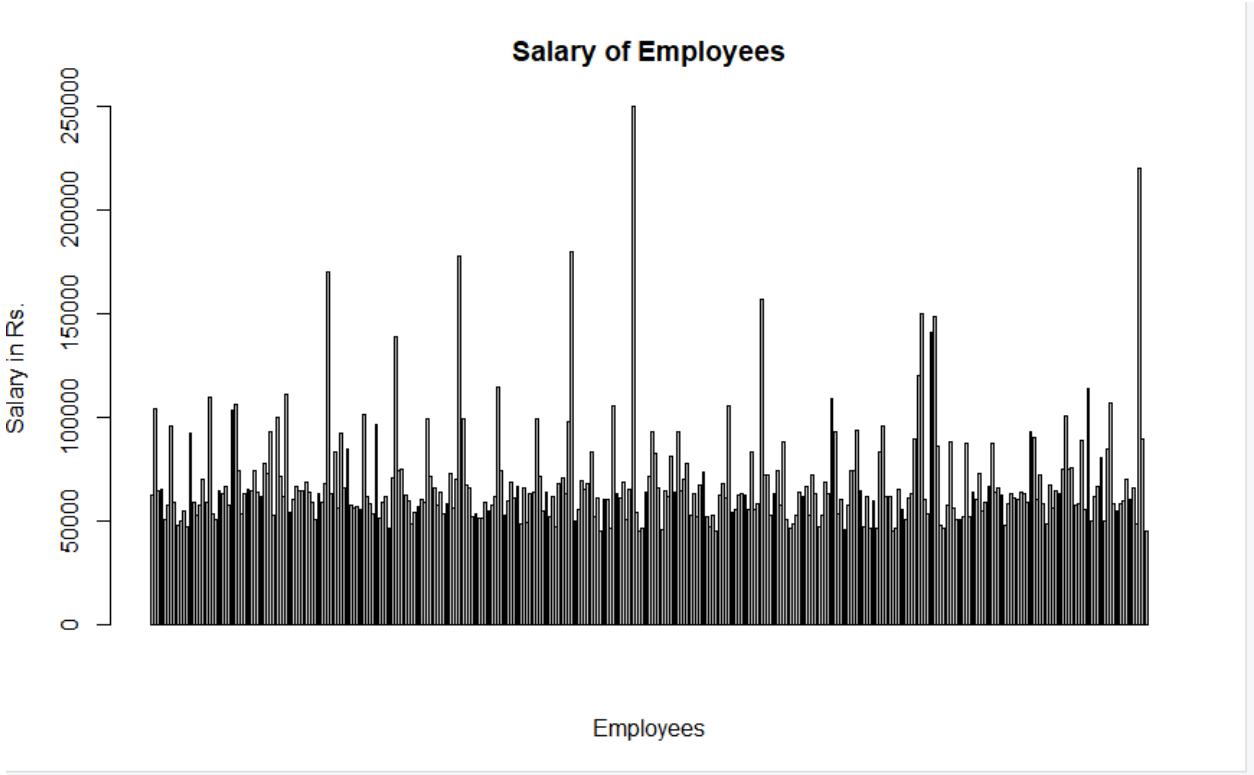
```
df=read.csv("C:\\Users\\aryam\\Desktop\\Fall Sem 2021\\Data Visualization Lab\\LAB 2 10-8-21\\HRDataset_v14.csv")

plot(df$EmpID,df$Salary, type='l')

barplot(df$Salary, main="Salary of Employees", xlab="Employees", ylab="Salary in Rs.")

plot(x = df$EmpID,y = df$Salary,xlab = "Employee ID",ylab = "Salary",main = "Employee ID and Salary Scatter")
```

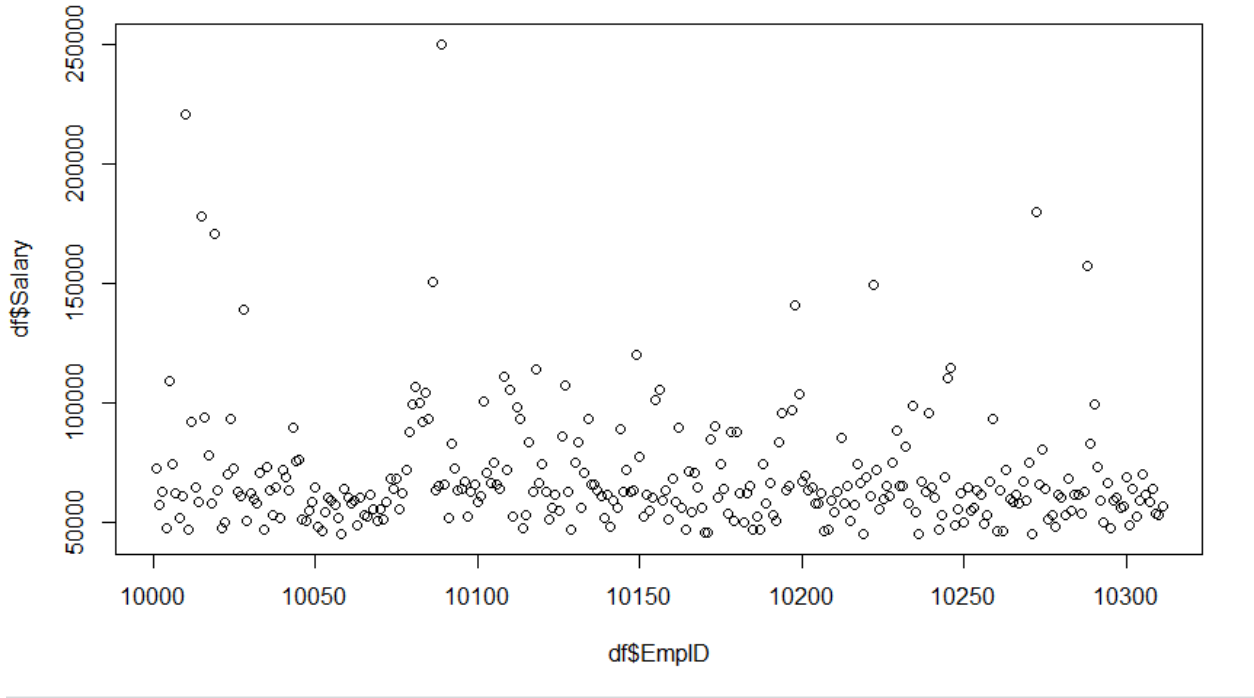
CONSOLE:


```
df=read.csv("C:\\Users\\aryam\\Desktop\\Fall Sem 2021\\Data Visualization Lab\\LAB 2 10-8-21\\HRDataset_v14.csv")

plot(df$EmpID,df$Salary, type='l')

barplot(df$Salary, main="Salary of Employees", xlab="Employees", ylab="Salary in Rs.")

plot(x = df$EmpID,y = df$Salary,xlab = "Employee ID",ylab = "Salary",main = "Employee ID and Salary Scatter")
```


PLOT:




Salary of Employees
Salary in Rs.
0
50000
100000
150000
200000
250000
Employees


df$Salary
50000
100000
150000
200000
250000
10000
10050
10100
10150
10200
10250
10300
df$EmpID

CODE:

```
df=read.csv("C:\\Users\\aryam\\Desktop\\Fall Sem 2021\\Data Visualization Lab\\LAB 2 10-8-21\\race_wins_1950-2020.csv")

df2=unique(df$Team)

df2

df3=df$Team

table(df3)

barplot(table(df3),

      main="Number of Race Wins(x:Teams,y:Race Wins)",

      ylab="Race Wins",

      ylim=c(1,350),

      border="red",

      col="blue",

      density=10,las=3

)

plot(table(df$Venue), type='l',main="Races held at Venue",xlab="Venues",ylab="Races held",las=3)

plot(x = df$ID,y = df$Laps,xlab = "Race ID",ylim=c(1,200),ylab = "Laps",main = "Laps at every Race",las=1)
```

console:

```
df=read.csv("C:\\Users\\aryam\\Desktop\\Fall Sem 2021\\Data Visualization Lab\\LAB 2 10-8-21\\HRDataset_v14.csv")

> plot(df$EmpID,df$Salary, type='l')

> barplot(df$Salary, main="Salary of Employees", xlab="Employees", ylab="Salary in Rs.")

> plot(x = df$EmpID,y = df$Salary,xlab = "Employee ID",ylab = "Salary",main = "Employee ID and Salary Scatter")
```

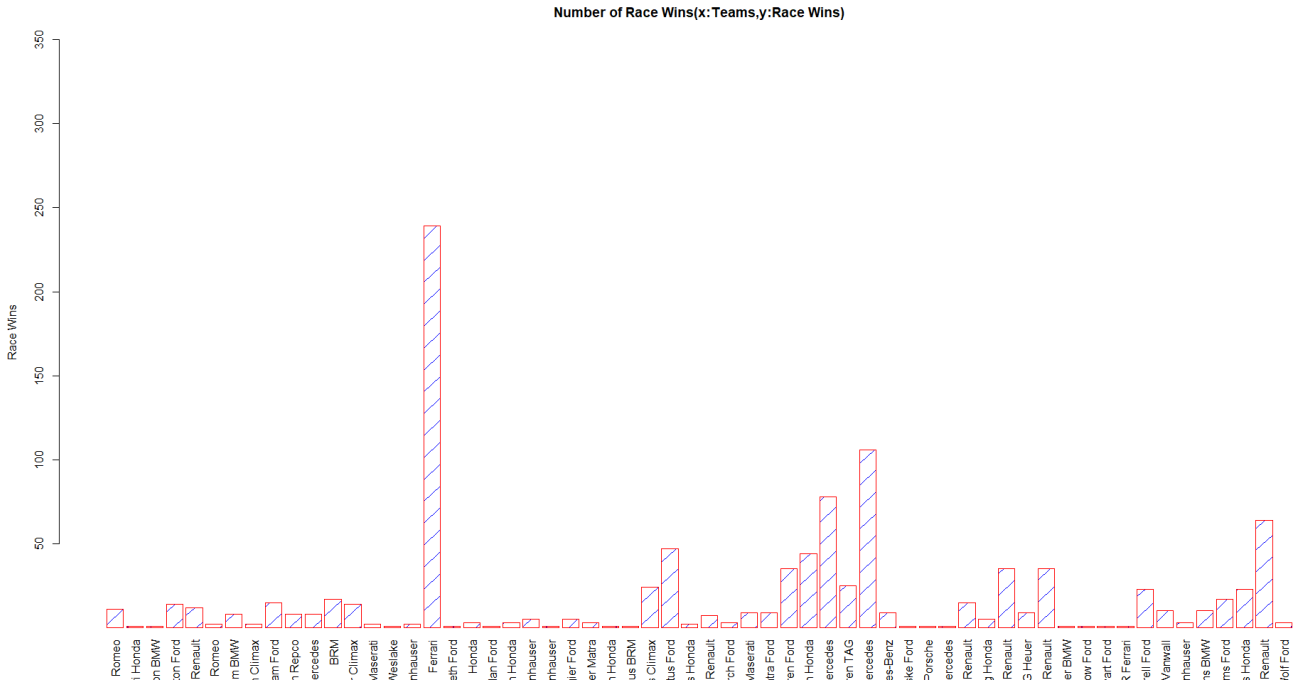
```
> df=read.csv("C:\\Users\\aryam\\Desktop\\Fall Sem 2021\\Data Visualization Lab\\LAB 2 10-8-21\\race_wins_1950-2020.csv")

> df2=unique(df$Team)

> df2

 [1] "Alfa Romeo"              "Kurtis Kraft Offenhauser"  "Ferrari"                 "Kuzma Offenhauser"

 [5] "Maserati"                "Mercedes-Benz"             "Watson Offenhauser"      "Epperly Offenhauser"

 [9] "Vanwall"                 "Cooper Climax"             "BRM"                     "Lotus Climax"

[13] "Porsche"                 "Brabham Climax"            "Honda"                   "Brabham Repco"

[17] "Lotus BRM"               "Cooper Maserati"           "Lotus Ford"              "Eagle Weslake"

[21] "McLaren Ford"            "Matra Ford"                "Brabham Ford"            "March Ford"

[25] "Tyrrell Ford"            "Hesketh Ford"              "Penske Ford"             "Wolf Ford"

[29] "Ligier Matra"            "Shadow Ford"               "Brabham Alfa Romeo"      "Ligier Ford"

[33] "Renault"                 "Williams Ford"             "Brabham BMW"             "McLaren TAG"

[37] "Williams Honda"          "Lotus Renault"             "Benetton BMW"            "Lotus Honda"

[41] "McLaren Honda"           "Williams Renault"          "Benetton Ford"           "Benetton Renault"

[45] "Ligier Mugen Honda"      "McLaren Mercedes"          "Jordan Mugen Honda"      "Stewart Ford"

[49] "Williams BMW"            "Jordan Ford"               "Sauber BMW"              "STR Ferrari"

[53] "Brawn Mercedes"          "RBR Renault"               "Red Bull Racing Renault" "Mercedes"

[57] "Red Bull Racing TAG Heuer" "Red Bull Racing Honda"   "AlphaTauri Honda"        "Racing Point BWT Mercedes"

> df3=df$Team

> table(df3)

df3

          Alfa Romeo       AlphaTauri Honda           Benetton BMW          Benetton Ford

                  11                     1                      1                     14

      Benetton Renault      Brabham Alfa Romeo           Brabham BMW          Brabham Climax
```

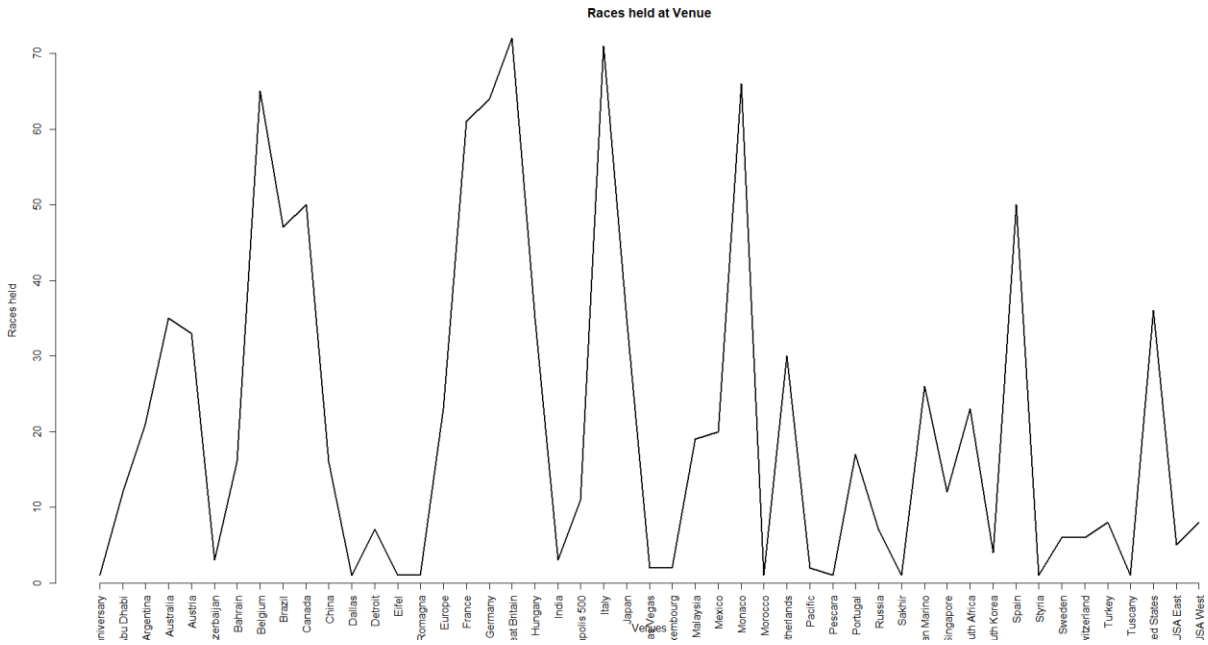
12	2	8	2
Brabham Ford	Brabham Repco	Brawn Mercedes	BRM
15	8	8	17
Cooper Climax	Cooper Maserati	Eagle Weslake	Epperly Offenhauser
14	2	1	2
Ferrari	Hesketh Ford	Honda	Jordan Ford
239	1	3	1
Jordan Mugen Honda	Kurtis Kraft Offenhauser	Kuzma Offenhauser	Ligier Ford
3	5	1	5
Ligier Matra	Ligier Mugen Honda	Lotus BRM	Lotus Climax
3	1	1	24
Lotus Ford	Lotus Honda	Lotus Renault	March Ford
47	2	7	3
Maserati	Matra Ford	McLaren Ford	McLaren Honda
9	9	35	44
McLaren Mercedes	McLaren TAG	Mercedes	Mercedes-Benz
78	25	106	9
Penske Ford	Porsche Racing Point BWT Mercedes	RBR Renault	
1	1	1	15
Red Bull Racing Honda	Red Bull Racing Renault	Red Bull Racing TAG Heuer	Renault
5	35	9	35
Sauber BMW	Shadow Ford	Stewart Ford	STR Ferrari
1	1	1	1
Tyrrell Ford	Vanwall	Watson Offenhauser	Williams BMW
23	10	3	10

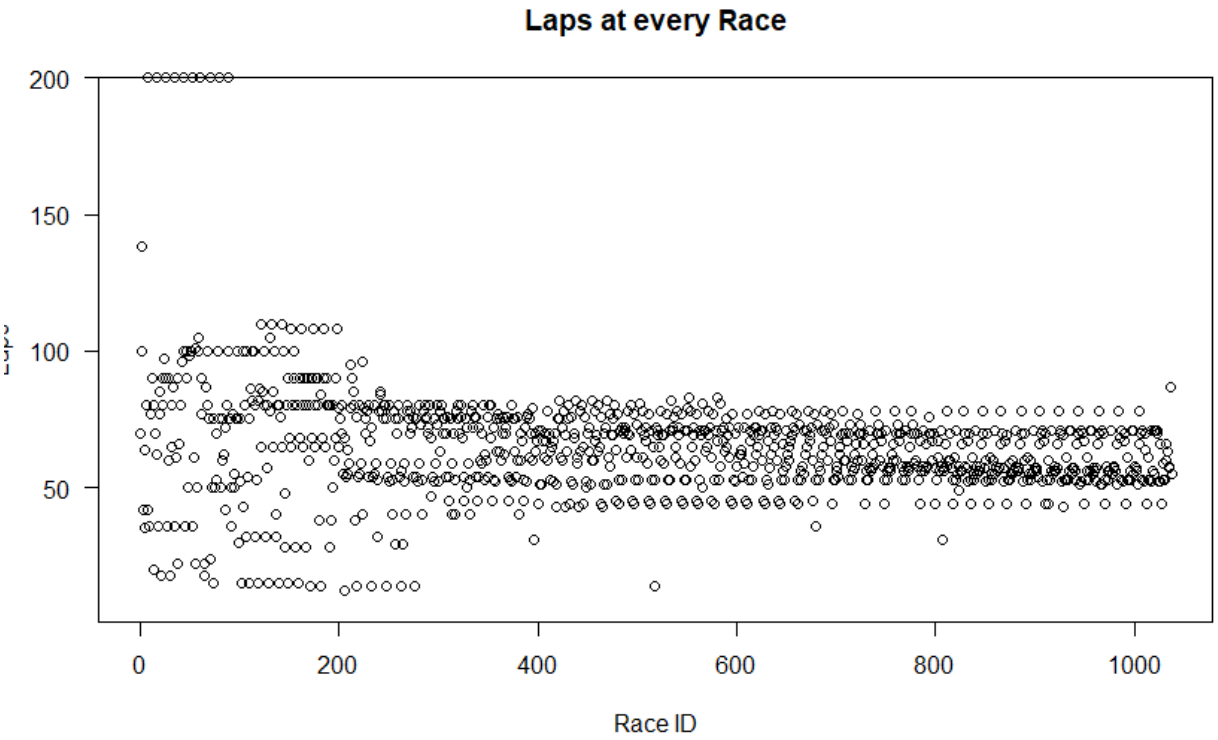
Williams Ford	Williams Honda	Williams Renault	Wolf Ford
17	23	64	3

```
> barplot(table(df3),
+       main="Number of Race Wins(x:Teams,y:Race Wins)",
+       ylab="Race Wins",
+       ylim=c(1,350),
+       border="red",
+       col="blue",
+       density=10,las=3
+ )
> plot(table(df$Venue), type='l',main="Races held at Venue",xlab="Venues",ylab="Races held",las=3)
> plot(x = df$ID,y = df$Laps,xlab = "Race ID",ylim=c(1,200),ylab = "Laps",main = "Laps at every Race",las=1)
```

PLOT:




Races held at Venue
Races held
0
10
20
30
40
50
60
70
Argentina
Austria
Bahrain
Belgium
Brazil
Canada
China
Dallas
Detroit
Europe
France
Germany
Hungary
India
Italy
Japan
Malaysia
Mexico
Monaco
Morocco
Pacific
Pescara
Portugal
Russia
Spain
Styria
Sweden
Turkey
Tuscany
Venues


Laps at every Race
200
150
100
50
0
200
400
600
800
1000
Race ID