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TE B

DWM

Experiment 5

1) Vectors

```
> states=c("gujarat","uttar pradesh","Karnataka")
> print (states)
[1] "gujarat"      "uttar pradesh" "Karnataka"
> print (class(states))
[1] "character"
```

2) Lists

```
> states=c("gujarat","uttar pradesh","Karnataka")
> print (states)
[1] "gujarat"      "uttar pradesh" "Karnataka"
> print (class(states))
[1] "character"
```

3) Matrix

```
> M = matrix( c("aa","ab","aa","aa","ab","aa"), nrow = 2, ncol=3, byrow= TRUE)
> print(M)
      [,1] [,2] [,3]
[1,] "aa"  "ab"  "aa"
[2,] "aa"  "ab"  "aa"
```

4) Arrays

```
> a= array(c('green','yellow'),dim= c(3,3,2))
> print(a)
, , 1
      [,1] [,2] [,3]
[1,] "green" "yellow" "green"
[2,] "yellow" "green" "yellow"
[3,] "green"  "yellow" "green"

, , 2
      [,1] [,2] [,3]
[1,] "yellow" "green" "yellow"
[2,] "green"  "yellow" "green"
[3,] "yellow" "green"  "yellow"
```

5) Data frame

```

> student= data.frame(
+ name=c("Anwesha","soham","Aastha"),
+ gender= c("F","M","F"),
+ age= c (19,60,20),
+ branch = c("comps","mech","IT"),
+ height= c(172,171,169),
+ marks = c(99,60,95)
+ )
> print(student)
  name gender age branch height marks
1 Anwesha   F  19  comps   172    99
2  soham    M  60   mech   171    60
3 Aastha   F  20    IT    169    95
>

```

```

> max_marks= max(student $ marks)
> print(max_marks)
[1] 99

```

From csv

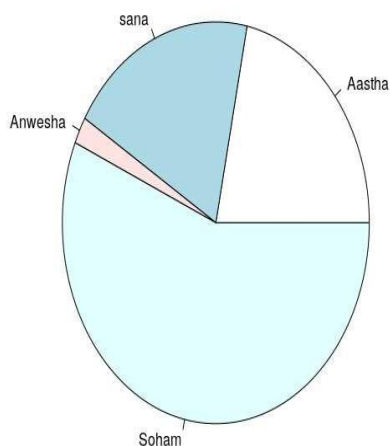
```

> print (getwd())
[1] "/home/apsit"
> data = read.csv("CAR.csv")
> print(data)
  COLOR TYPE ORIGIN STOLEN
1  RED SPORTS DOMESTIC  YES
2  RED SPORTS DOMESTIC  NO
3  RED SPORTS DOMESTIC  YES
4 YELLOW SPORTS DOMESTIC  NO
5 YELLOW SPORTS IMPORTED YES
6 YELLOW SUV IMPORTED  NO
7 YELLOW SUV IMPORTED  YES
8 YELLOW SUV DOMESTIC  NO
9  RED SUV IMPORTED  NO
10 RED SPORTS IMPORTED  YES

```

Visualization

1) Pie Chart



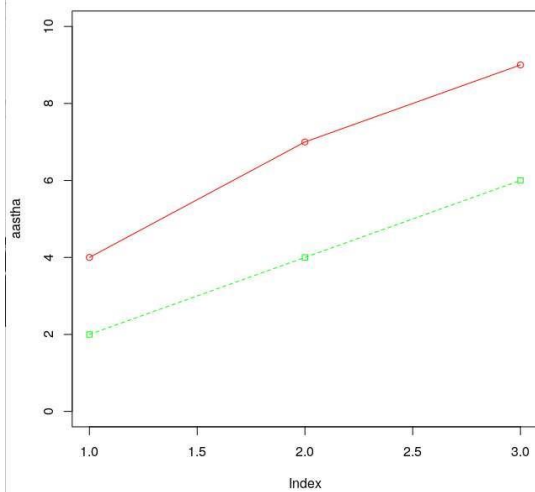
```

Error: unexpected , in: a=c(30,
> a=c(30,27,3,78)
> labels= c("Aastha","sana","Anwesha","Soham")
> pie(a,labels)

```

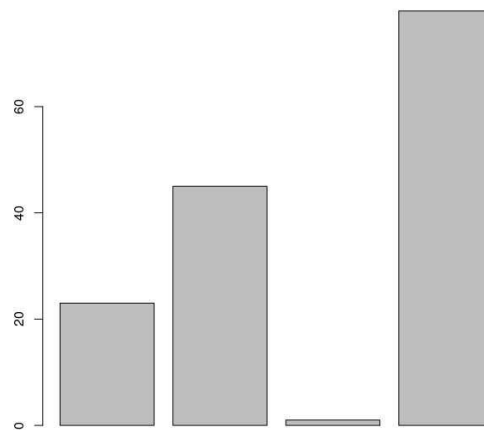
2) Line Charts :-

```
> aastha = c(4,7,9)
> soham = c(2,4,6)
> plot(aastha,type="o",col="red",ylim=c(0,10))
> lines(soham,type="o",pch=22,lty=2, col="green")
```



3) bar plot

```
> cars= c(23,45,1,78)
> barplot(cars)
```



4) Scatter plot

```
> a = c(3,5,7,8)
> b = c(5,7,1,7)
> plot(a,b)
```

