

R PROJECT

FACULTY _ DHANASEKAR SIR

AIM:

TO CHOOSE A DATASET AND PERFORM DATA ANALYSIS USING R
LANGUAGE

SOFTWARE USED:

R STUDIO

CODES, OUTPUTS AND VISUALISATIONS :-

#CODE

```
Region = c(1,1,1,2,1,1,1,2,1,2,1,1,3,2,1,4)
Locality = c(1,2,2,1,1,1,2,1,1,3,1,2,1,1,2,
1)
Tech = c(1,1,1,1,1,2,1,1,1,1,1,1,1,1,2)
email_sent_instantly = c(1,1,1,1,1,1,1,1,2,1,2,1,1,1,1)
smooth_video_calls = c(1,2,2,1,1,1,1,1,2,1,2,1,2,1,2)
delays_in_video_conference_calls = c(2,1,1,2,2,2,2,1,1,1,2,1,2,1,2,1)
four_min_song_download = c(1,2,1,1,1,2,
1,1,1,3,1,
2,1,1,1,3)
data_used_each_month = c(1,1,2,3,3,3,
1,3,1,3,1,2,
3,1,3,4)
call_drop_rate = c(9,6,8,1,9,7,5,9,8,3,5,3,8,8,9,7)
network_recommended = c(1,1,2,1,1,3,3,1,1,3,1,3,1,
1,1,3)
network_used = c(1,1,2,1,1,3,3,1,3,1,1,2,
1,1,2,3)
rating = c(6,5,8,6,10,8,5,7,9,8,5,6,5,9,10,8)
support_from_government = c(6,8,7,10,8,4,7,4,7,5,5,6,7,8,7,9)
telecommunications_market_in_India_towards_monopoly = c(2,1,1,1,2,1,1,1,1,1,1,2,
1,2,1)
tele_analysis = data.frame(Region,Locality,Tech,email_sent_instantly,smooth_video_calls,
delays_in_video_conference_calls,four_min_song_download,data_used_each_month,call_drop_rate,
network_recommended,network_used,rating,support_from_government,
telecommunications_market_in_India_towards_monopoly)
```

```

tele_analysis
tele_analysis$Region = factor(tele_analysis$Region,labels = c("West","North","South","East"))
tele_analysis$Region
tele_analysis$Locality = factor(tele_analysis$Locality,labels = c("Urban","Suburban","Rural"))
tele_analysis$Locality
tele_analysis$Tech = factor(tele_analysis$Tech,labels = c("four_G","three_G"))
tele_analysis$Tech
tele_analysis$email_sent_instantly = factor(tele_analysis$email_sent_instantly,labels =
c("Yes","No"))
tele_analysis$email_sent_instantly
tele_analysis$smooth_video_calls = factor(tele_analysis$smooth_video_calls,labels = c("Yes","No"))
tele_analysis$smooth_video_calls
tele_analysis$delays_in_video_conference_calls =
factor(tele_analysis$delays_in_video_conference_calls , labels = c("Yes","No"))
tele_analysis$delays_in_video_conference_calls
tele_analysis$four_min_song_download = factor(tele_analysis$four_min_song_download , labels =
c("Less_than_1_min","one_min_to_2_mins","five_mins_to_10_mins"))
tele_analysis$four_min_song_download
tele_analysis$data_used_each_month = factor(tele_analysis$data_used_each_month, labels =
c("ten_GB_to_fifty_GB","one_GB_to_ten_GB","More_than_fifty_GB","hundred_MB_to_one_GB"))
tele_analysis$data_used_each_month
tele_analysis$network_recommended = factor(tele_analysis$network_recommended,labels =
c("Airtel","VI","Jio"))
tele_analysis$network_recommended
tele_analysis$network_used = factor(tele_analysis$network_used,labels = c("Airtel","VI","Jio"))
tele_analysis$network_used
tele_analysis$telecommunications_market_in_India_towards_monopoly =
factor(tele_analysis$telecommunications_market_in_India_towards_monopoly,labels =
c("Yes","No"))
tele_analysis$telecommunications_market_in_India_towards_monopoly
tele_analysis

```

#OUTPUT

```
> tele_analysis
Region Locality Tech email_sent_instantly smooth_video_calls
1      1      1    1      1      1
2      1      2    1      1      2
3      1      2    1      1      2
4      2      1    1      1      1
5      1      1    1      1      1
6      1      1    2      1      1
7      1      2    1      1      1
8      2      1    1      1      1
9      1      1    1      1      1
10     2      3    1      2      2
11     1      1    1      1      1
12     1      2    1      2      2
13     3      1    1      1      1
14     2      1    1      1      2
15     1      2    1      1      1
16     4      1    2      1      2

delays_in_video_conference_calls four_min_song_download data_used_each_month
1      2      1      1
2      1      2      1
3      1      1      2
4      2      1      3
5      2      1      3
6      2      2      3
7      2      1      1
8      1      1      3
9      1      1      1
10     1      3      3
11     2      1      1
12     1      2      2
13     2      1      3
14     1      1      1
15     2      1      3
16     1      3      4

call_drop_rate network_recommended network_used rating
1      9      1      1      6
2      6      1      1      5
3      8      2      2      8
4      1      1      1      6
5      9      1      1     10
6      7      3      3      8
7      5      3      3      5
8      9      1      1      7
9      8      1      3      9
10     3      3      1      8
11     5      1      1      5
12     3      3      2      6
13     8      1      1      5
14     8      1      1      9
15     9      1      2     10
16     7      3      3      8

support_from_government telecommunications_market_in_india_towards_monopoly
1      6      2
2      8      1
3      7      1
4     10      1
5      8      2
6      4      1
7      7      1
8      4      1
9      7      1
10     5      1
11     5      1
12     6      1
13     7      2
14     8      1
15     7      2
16     9      1
```

```

> tele_analysis$Region = factor(tele_analysis$Region, labels = c("West", "North", "South", "East"))
> tele_analysis$Region
[1] West West West North West West West North West North West West
[13] South North West East
Levels: West North South East
> tele_analysis$Locality = factor(tele_analysis$Locality, labels = c("Urban", "Suburban", "Rural"))
> tele_analysis$Locality
[1] Urban Suburban Suburban Urban Urban Urban Suburban Urban
[9] Urban Rural Urban Suburban Urban Urban Suburban Urban
Levels: Urban Suburban Rural
> tele_analysis$Tech = factor(tele_analysis$Tech, labels = c("four_G", "three_G"))
> tele_analysis$Tech
[1] four_G four_G four_G four_G four_G three_G four_G four_G four_G
[10] four_G four_G four_G four_G four_G four_G three_G
Levels: four_G three_G
> tele_analysis$email_sent_instantly = factor(tele_analysis$email_sent_instantly, labels = c("Yes", "No"))
> tele_analysis$email_sent_instantly
[1] Yes Yes Yes Yes Yes Yes Yes Yes No Yes No Yes Yes Yes Yes
Levels: Yes No
> tele_analysis$smooth_video_calls = factor(tele_analysis$smooth_video_calls, labels = c("Yes", "No"))
> tele_analysis$smooth_video_calls
[1] Yes No No Yes Yes Yes Yes Yes No Yes No Yes No Yes No
Levels: Yes No
> tele_analysis$delays_in_video_conference_calls = factor(tele_analysis$delays_in_video_conference_calls, labels = c("Yes", "No"))
> tele_analysis$delays_in_video_conference_calls
[1] No Yes Yes No No No No Yes Yes Yes No Yes No Yes No Yes
Levels: Yes No
> tele_analysis$four_min_song_download = factor(tele_analysis$four_min_song_download, labels = c("Less_than_1_min", "one_min_to_2_mins", "five_mins_to_10_mins"))
> tele_analysis$four_min_song_download
[1] Less_than_1_min one_min_to_2_mins Less_than_1_min
[4] Less_than_1_min Less_than_1_min one_min_to_2_mins
[7] Less_than_1_min Less_than_1_min Less_than_1_min
[10] five_mins_to_10_mins Less_than_1_min one_min_to_2_mins
[13] Less_than_1_min Less_than_1_min Less_than_1_min
[16] five_mins_to_10_mins
Levels: Less_than_1_min one_min_to_2_mins five_mins_to_10_mins
> tele_analysis$data_used_each_month = factor(tele_analysis$data_used_each_month, labels = c("ten_GB_to_fifty_GB", "one_GB_to_ten_GB", "More_than_fifty_GB", "hundred_MB_to_one_GB"))
> tele_analysis$data_used_each_month
[1] ten_GB_to_fifty_GB ten_GB_to_fifty_GB one_GB_to_ten_GB
[4] More_than_fifty_GB More_than_fifty_GB More_than_fifty_GB
[7] ten_GB_to_fifty_GB More_than_fifty_GB ten_GB_to_fifty_GB
[10] More_than_fifty_GB ten_GB_to_fifty_GB one_GB_to_ten_GB
[13] More_than_fifty_GB ten_GB_to_fifty_GB More_than_fifty_GB
[16] hundred_MB_to_one_GB
4 Levels: ten_GB_to_fifty_GB one_GB_to_ten_GB ... hundred_MB_to_one_GB
> tele_analysis$network_recommended = factor(tele_analysis$network_recommended, labels = c("Airtel", "VI", "Jio"))
> tele_analysis$network_recommended
[1] Airtel Airtel VI Airtel Airtel Jio Jio Airtel Airtel Jio
[11] Airtel Jio Airtel Airtel Airtel Jio
Levels: Airtel VI Jio
> tele_analysis$network_used = factor(tele_analysis$network_used, labels = c("Airtel", "VI", "Jio"))
> tele_analysis$network_used
[1] Airtel Airtel VI Airtel Airtel Jio Jio Airtel Jio Airtel
[11] Airtel VI Airtel Airtel VI Jio
Levels: Airtel VI Jio
> tele_analysis$telecommunications_market_in_India_towards_monopoly = factor(tele_analysis$telecommunications_market_in_India_towards_monopoly, labels = c("Yes", "No"))
> tele_analysis$telecommunications_market_in_India_towards_monopoly
[1] No Yes Yes Yes No Yes Yes Yes Yes Yes Yes No Yes No Yes
Levels: Yes No

```

> tele_analysis

	Region	Locality	Tech	email_sent_instantly	smooth_video_calls
1	West	Urban	four_G	Yes	Yes
2	West	Suburban	four_G	Yes	No
3	West	Suburban	four_G	Yes	No
4	North	Urban	four_G	Yes	Yes
5	West	Urban	four_G	Yes	Yes
6	West	Urban	three_G	Yes	Yes
7	West	Suburban	four_G	Yes	Yes
8	North	Urban	four_G	Yes	Yes
9	West	Urban	four_G	Yes	Yes
10	North	Rural	four_G	No	No
11	West	Urban	four_G	Yes	Yes
12	West	Suburban	four_G	No	No
13	South	Urban	four_G	Yes	Yes
14	North	Urban	four_G	Yes	No
15	West	Suburban	four_G	Yes	Yes
16	East	Urban	three_G	Yes	No

	delays_in_video_conference_calls	four_min_song_download	data_used_each_month
1	No	Less_than_1_min	ten_GB_to_fifty_GB
2	Yes	one_min_to_2_mins	ten_GB_to_fifty_GB
3	Yes	Less_than_1_min	one_GB_to_ten_GB
4	No	Less_than_1_min	More_than_fifty_GB
5	No	Less_than_1_min	More_than_fifty_GB
6	No	one_min_to_2_mins	More_than_fifty_GB
7	No	Less_than_1_min	ten_GB_to_fifty_GB
8	Yes	Less_than_1_min	More_than_fifty_GB
9	Yes	Less_than_1_min	ten_GB_to_fifty_GB
10	Yes	five_mins_to_10_mins	More_than_fifty_GB
11	No	Less_than_1_min	ten_GB_to_fifty_GB
12	Yes	one_min_to_2_mins	one_GB_to_ten_GB
13	No	Less_than_1_min	More_than_fifty_GB
14	Yes	Less_than_1_min	ten_GB_to_fifty_GB
15	No	Less_than_1_min	More_than_fifty_GB
16	Yes	five_mins_to_10_mins	hundred_MB_to_one_GB

	call_drop_rate	network_recommended	network_used	rating
1	9	Airtel	Airtel	6
2	6	Airtel	Airtel	5
3	8	VI	VI	8
4	1	Airtel	Airtel	6
5	9	Airtel	Airtel	10
6	7	Jio	Jio	8
7	5	Jio	Jio	5
8	9	Airtel	Airtel	7
9	8	Airtel	Jio	9
10	3	Jio	Airtel	8
11	5	Airtel	Airtel	5
12	3	Jio	VI	6
13	8	Airtel	Airtel	5
14	8	Airtel	Airtel	9
15	9	Airtel	VI	10
16	7	Jio	Jio	8

	support_from_government	telecommunications_market_in_India_towards_monopoly
1	6	No
2	8	Yes
3	7	Yes
4	10	Yes
5	8	No
6	4	Yes
7	7	Yes
8	4	Yes
9	7	Yes
10	5	Yes
11	5	Yes
12	6	Yes
13	7	No
14	8	Yes
15	7	No
16	9	Yes

#CODE

summary(tele_analysis)

#OUTPUT

```
> summary(tele_analysis)
  Region      Locality      Tech email_sent_instantly smooth_video_calls delays_in_video_conference_calls four_min_song_download
West :10   Urban   :10   four_G :14   Yes:14                Yes:10                Yes:8                Less_than_1_min :11
North: 4   Suburban: 5   three_G: 2   No : 2                No : 6                No :8                one_min_to_2_mins : 3
South: 1   Rural    : 1                                     five_mins_to_10_mins: 2
East : 1

data_used_each_month call_drop_rate network_recommended network_used rating support_from_government
ten_GB_to_fifty_GB :6      Min. :1.000 Airtel:10      Airtel:9      Min. : 5.000 Min. : 4.00
one_GB_to_ten_GB :2      1st Qu.:5.000 VI : 1      VI :3      1st Qu.: 5.750 1st Qu.: 5.75
More_than_fifty_GB :7      Median :7.500 Jio : 5      Jio :4      Median : 7.500 Median : 7.00
hundred_MB_to_one_GB:1      Mean :6.562                                     Mean : 7.188 Mean : 6.75
                                     3rd Qu.:8.250                                     3rd Qu.: 8.250 3rd Qu.: 8.00
                                     Max. :9.000                                     Max. :10.000 Max. :10.00

telecommunications_market_in_India_towards_monopoly
Yes:12
No : 4
```

#CODE

urban = subset(tele_analysis,tele_analysis\$Locality == "Urban")

urban

rural = subset(tele_analysis,tele_analysis\$Locality == "Rural")

rural

suburban = subset(tele_analysis,tele_analysis\$Locality == "Suburban")

suburban

#OUTPUT

```
> urban = subset(tele_analysis,tele_analysis$Locality == "Urban")
> urban
  Region Locality Tech email_sent_instantly smooth_video_calls delays_in_video_conference_calls four_min_song_download data_used_each_month call_drop_rate network_recommended network_used rating support_from_government
1 West Urban four_G Yes Yes No Less_than_1_min ten_GB_to_fifty_GB 9 Airtel Airtel 6 6
4 North Urban four_G Yes Yes No Less_than_1_min More_than_fifty_GB 1 Airtel Airtel 6 10
5 West Urban four_G Yes Yes No Less_than_1_min More_than_fifty_GB 9 Airtel Airtel 10 8
6 West Urban three_G Yes Yes No one_min_to_2_mins More_than_fifty_GB 7 Jio Jio 8 4
8 North Urban four_G Yes Yes Yes Less_than_1_min More_than_fifty_GB 9 Airtel Airtel 7 4
9 West Urban four_G Yes Yes Yes Less_than_1_min More_than_fifty_GB 8 Airtel Jio 9 7
11 West Urban four_G Yes Yes No Less_than_1_min ten_GB_to_fifty_GB 5 Airtel Airtel 5 5
13 South Urban four_G Yes Yes No Less_than_1_min More_than_fifty_GB 8 Airtel Airtel 5 7
14 North Urban four_G Yes No Yes Less_than_1_min ten_GB_to_fifty_GB 8 Airtel Airtel 9 8
16 East Urban three_G Yes No Yes five_mins_to_10_mins hundred_MB_to_one_GB 7 Jio Jio 8 9
telecommunications_market_in_India_towards_monopoly
1 No
4 Yes
5 No
6 Yes
8 Yes
9 Yes
11 Yes
13 No
14 Yes
16 Yes
> rural = subset(tele_analysis,tele_analysis$Locality == "Rural")
> rural
  Region Locality Tech email_sent_instantly smooth_video_calls delays_in_video_conference_calls four_min_song_download data_used_each_month call_drop_rate network_recommended network_used rating support_from_government
10 North Rural four_G No No Yes five_mins_to_10_mins More_than_fifty_GB 3 Jio Airtel 8 5
telecommunications_market_in_India_towards_monopoly
10 Yes
> suburban = subset(tele_analysis,tele_analysis$Locality == "Suburban")
> suburban
  Region Locality Tech email_sent_instantly smooth_video_calls delays_in_video_conference_calls four_min_song_download data_used_each_month call_drop_rate network_recommended network_used rating support_from_government
2 West Suburban four_G Yes No Yes one_min_to_2_mins ten_GB_to_fifty_GB 6 Airtel Airtel 5 8
3 West Suburban four_G Yes No Yes Less_than_1_min one_GB_to_ten_GB 8 VI VI 8 7
7 West Suburban four_G Yes Yes No Less_than_1_min ten_GB_to_fifty_GB 5 Jio Jio 5 7
12 West Suburban four_G No No Yes one_min_to_2_mins one_GB_to_ten_GB 3 Jio VI 6 6
15 West Suburban four_G Yes Yes No Less_than_1_min More_than_fifty_GB 9 Airtel VI 10 7
telecommunications_market_in_India_towards_monopoly
2 Yes
3 Yes
7 Yes
12 Yes
15 No
```

#CODE

```
four_G = subset(tele_analysis , tele_analysis$Tech == "four_G")
```

```
four_G
```

```
three_G = subset(tele_analysis,tele_analysis$Tech == "three_G")
```

```
three_G
```

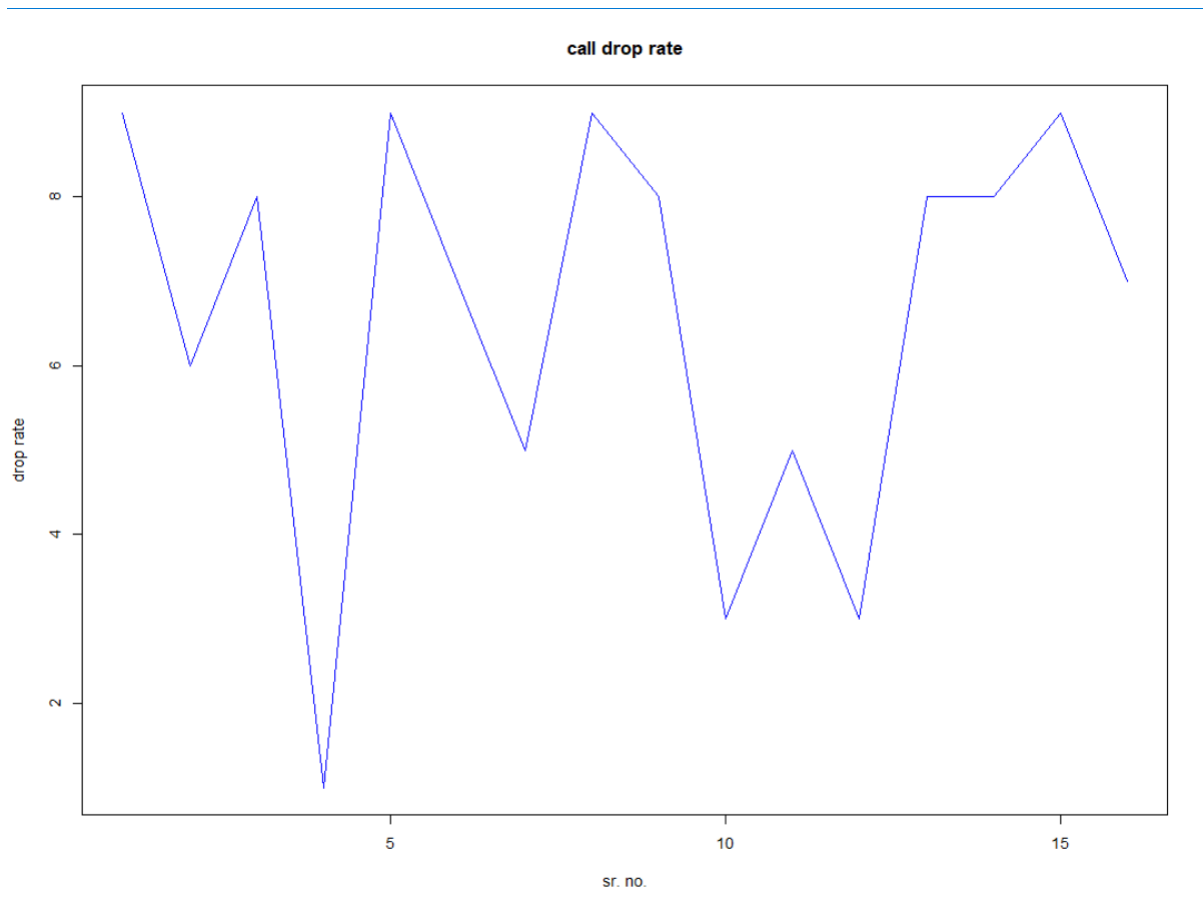
#OUTPUT

```
> four_G = subset(tele_analysis , tele_analysis$Tech == "four_G")
> four_G
  Region Locality Tech email_sent_instantly smooth_video_calls delays_in_video_conference_calls four_min_song_download data_used_each_month call_drop_rate network_recommended network_used rating support_from_government
1 West Urban four_G Yes Yes No Less_than_1_min ten_GB_to_fifty_GB 9 Airtel Airtel 6 6
2 West Suburban four_G Yes No Yes one_min_to_2_mins ten_GB_to_fifty_GB 6 Airtel Airtel 5 8
3 West Suburban four_G Yes No Yes Less_than_1_min one_GB_to_ten_GB 8 VI VI 8 7
4 North Urban four_G Yes Yes Yes No Less_than_1_min More_than_fifty_GB 1 Airtel Airtel 6 10
5 West Urban four_G Yes Yes Yes No Less_than_1_min More_than_fifty_GB 9 Airtel Airtel 10 8
7 West Suburban four_G Yes Yes Yes No Less_than_1_min ten_GB_to_fifty_GB 5 Jio Jio 5 7
8 North Urban four_G Yes Yes Yes Yes Less_than_1_min More_than_fifty_GB 9 Airtel Airtel 7 4
9 West Urban four_G Yes Yes Yes Yes Less_than_1_min ten_GB_to_fifty_GB 8 Airtel Jio 9 7
10 North Rural four_G No No Yes five_mins_to_10_mins More_than_fifty_GB 3 Jio Airtel 8 5
11 West Urban four_G Yes Yes No Less_than_1_min ten_GB_to_fifty_GB 5 Airtel Airtel 5 5
12 West Suburban four_G No No Yes one_min_to_2_mins one_GB_to_ten_GB 3 Jio VI 6 6
13 South Urban four_G Yes Yes No Less_than_1_min More_than_fifty_GB 8 Airtel Airtel 5 7
14 North Urban four_G Yes No Yes Less_than_1_min ten_GB_to_fifty_GB 8 Airtel Airtel 9 8
15 West Suburban four_G Yes Yes No Less_than_1_min More_than_fifty_GB 9 Airtel VI 10 7
telecommunications_market_in_india_towards_monopoly
1 No
2 Yes
3 Yes
4 Yes
5 No
7 Yes
8 Yes
9 Yes
10 Yes
11 Yes
12 Yes
13 No
14 Yes
15 No
> three_G = subset(tele_analysis,tele_analysis$Tech == "three_G")
> three_G
  Region Locality Tech email_sent_instantly smooth_video_calls delays_in_video_conference_calls four_min_song_download data_used_each_month call_drop_rate network_recommended network_used rating support_from_government
6 West Urban three_G Yes Yes No one_min_to_2_mins More_than_fifty_GB 7 Jio Jio 8 4
16 East Urban three_G Yes No Yes five_mins_to_10_mins hundred_MB_to_one_GB 7 Jio Jio 8 9
telecommunications_market_in_india_towards_monopoly
6 Yes
16 Yes
```

#CODE

```
plot(tele_analysis$call_drop_rate,type="l",main = "call drop rate",xlab = "sr. no.",ylab = "drop rate",col = "blue")
```

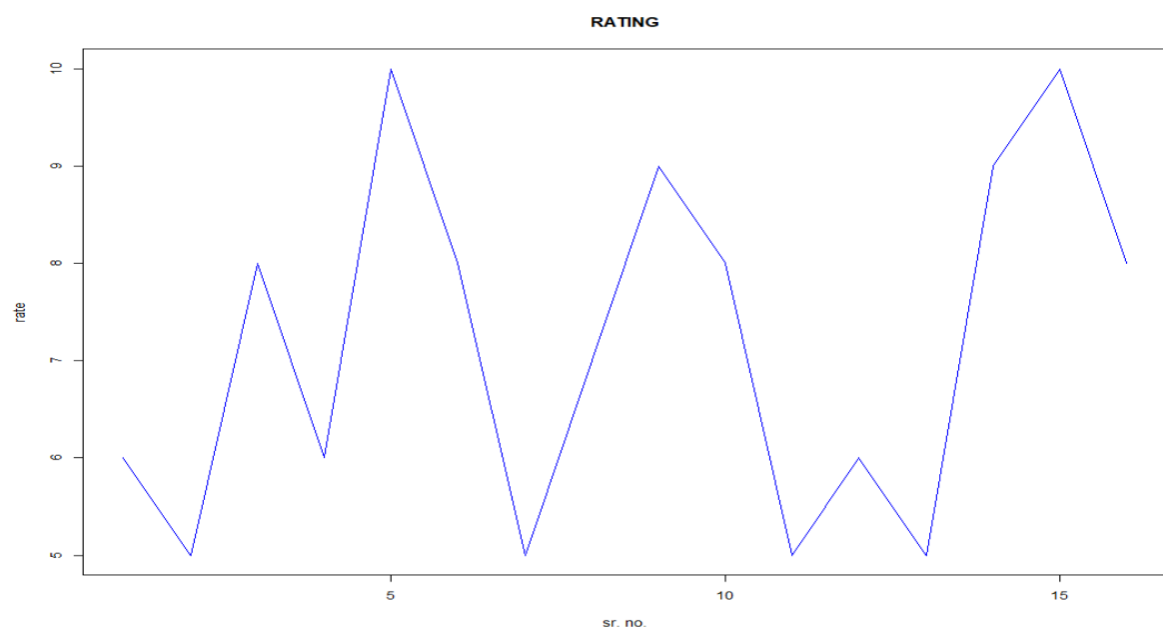
#OUTPUT



#CODE

```
plot(tele_analysis$rating,type="l",main = "RATING",xlab = "sr. no.",ylab = "rate",col = "blue")
```

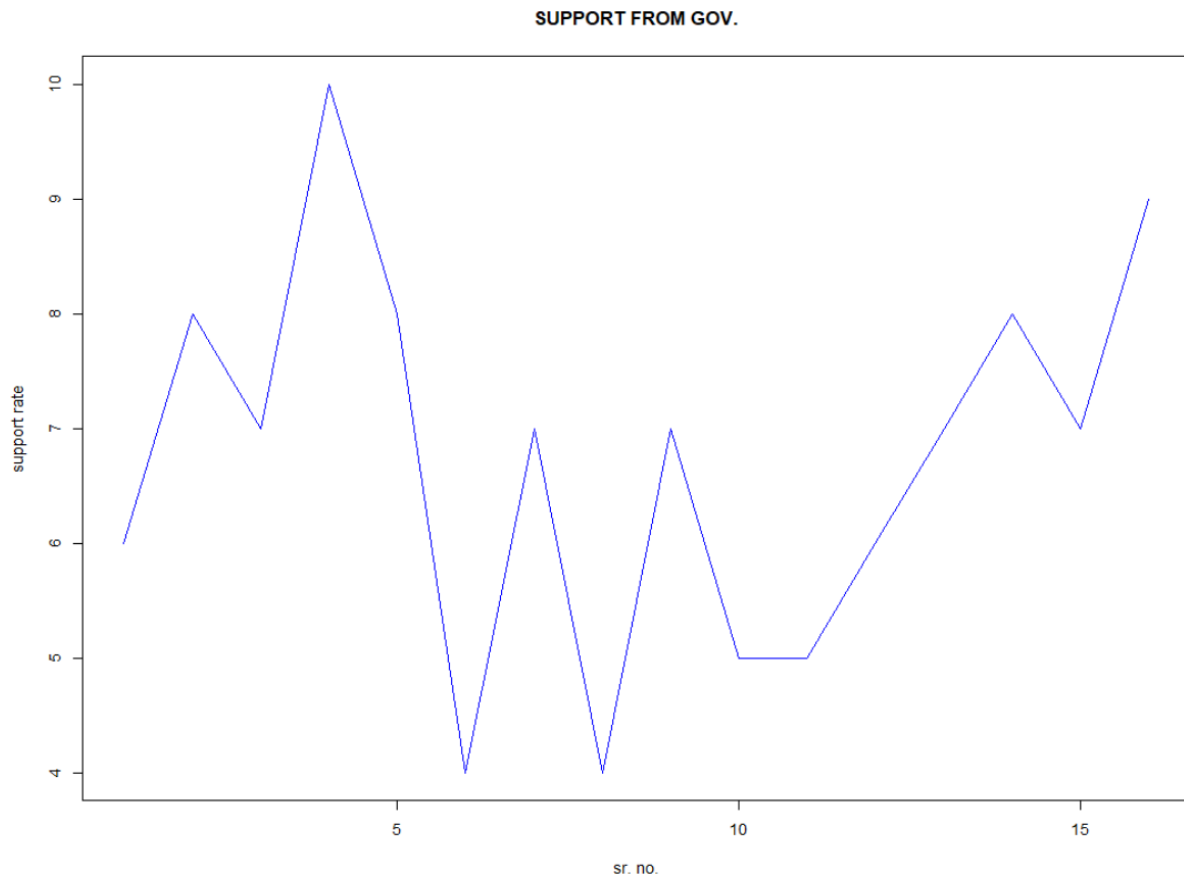
#OUTPUT



#CODE

```
plot(tele_analysis$support_from_government,type="l",main = "SUPPORT FROM GOV.",xlab = "sr.  
no.",ylab = "support rate",col = "blue")
```

#OUTPUT



#CODE

```
table1 = table(tele_analysis$Region)
```

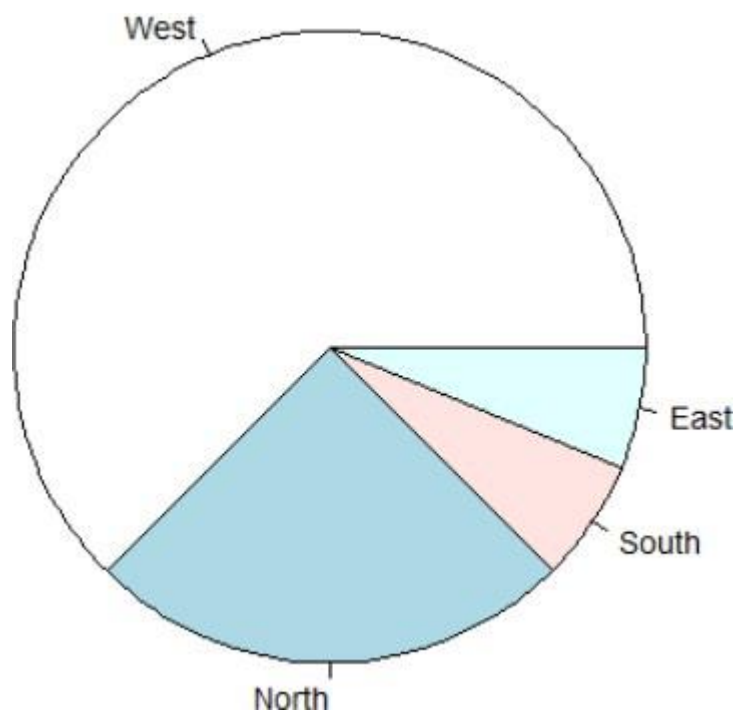
```
table1
```

```
pie(table1)
```

#OUTPUT

```
> table1 = table(tele_analysis$Region)  
> table1
```

West	North	South	East
10	4	1	1



#CODE

```
table2 = table(tele_analysis$Locality)
table2
table3 = table(tele_analysis$four_min_song_download)
table3
table4 = table(tele_analysis$data_used_each_month)
table4
table5 = table(tele_analysis$network_recommended)
table5
table6 = table(tele_analysis$network_used)
table6
```

#OUTPUT

```

> table2 = table(tele_analysis$Locality)
> table2

    Urban Suburban   Rural
      10       5       1
> table3 = table(tele_analysis$four_min_song_download)
> table3

    Less_than_1_min   one_min_to_2_mins five_mins_to_10_mins
              11              3              2
> table4 = table(tele_analysis$data_used_each_month)
> table4

    ten_GB_to_fifty_GB   one_GB_to_ten_GB   More_than_fifty_GB   hundred_MB_to_one_GB
              6              2              7              1
> table5 = table(tele_analysis$network_recommended)
> table5

Airtel    VI    Jio
   10     1     5
> table6 = table(tele_analysis$network_used)
> table6

Airtel    VI    Jio
    9     3     4

```

#CODE

```
pie(table2)
```

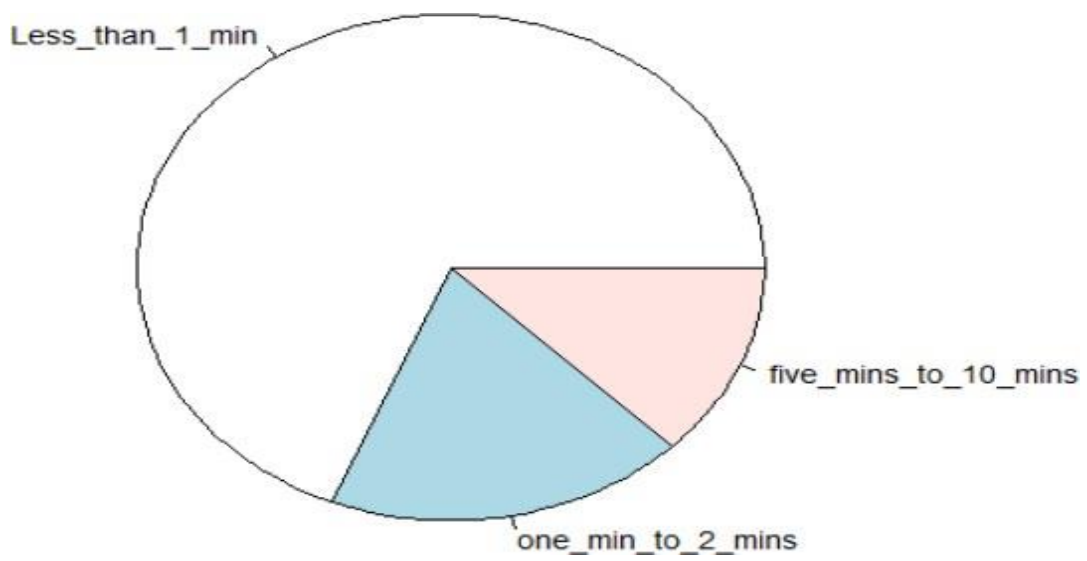
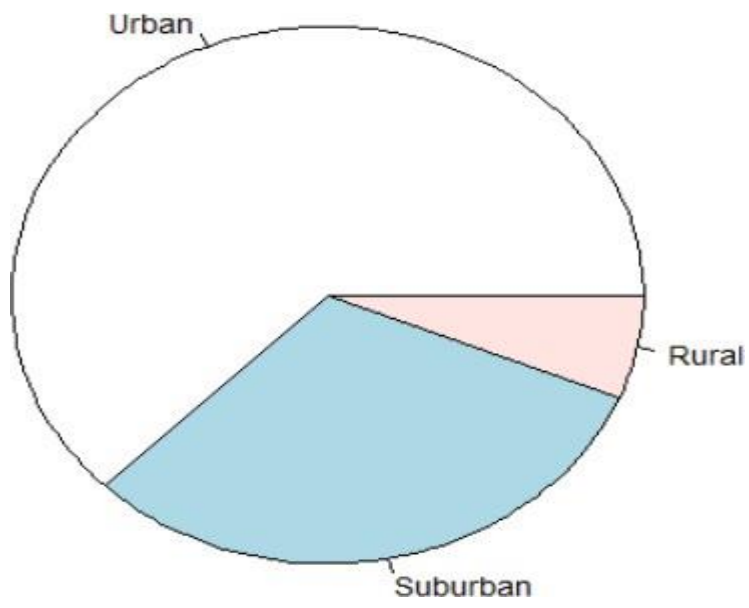
```
pie(table3)
```

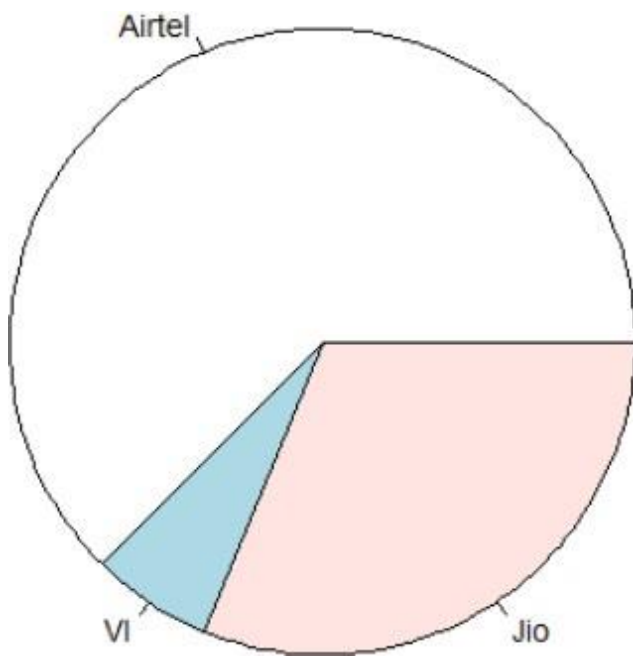
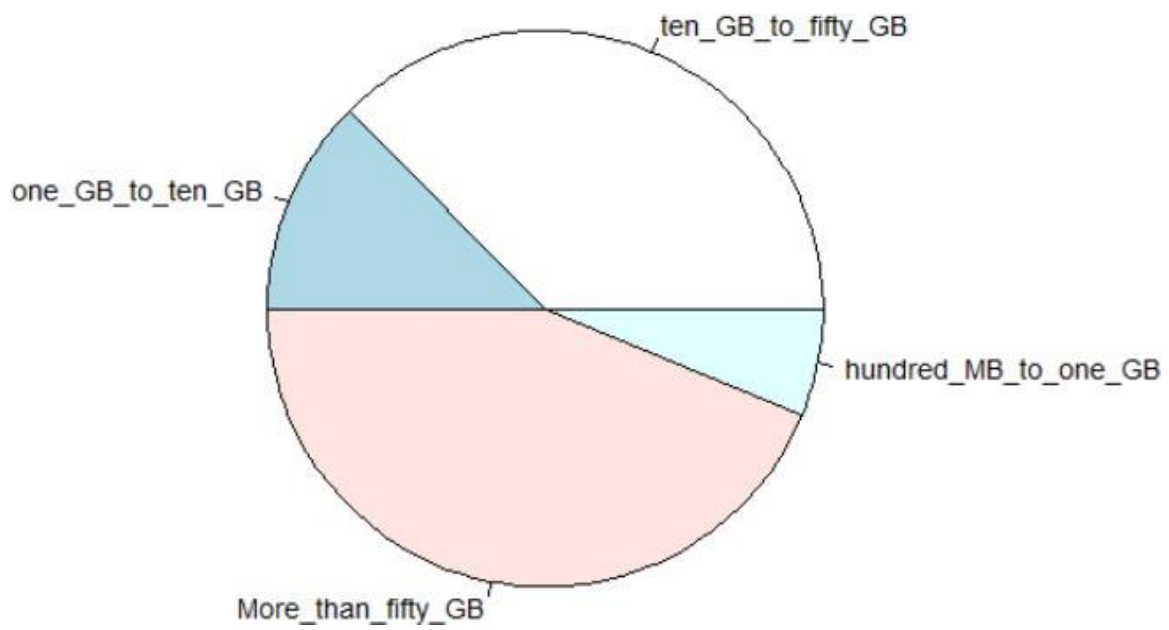
```
pie(table4)
```

```
pie(table5)
```

```
pie(table6)
```

#OUTPUT







#CODE

```
id = c(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16)
```

```
tele_analysis1 = data.frame(id , call_drop_rate , rating, support_from_government)
```

```
tele_analysis1
```

#OUTPUT

```
> id = c(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16)
> tele_analysis1 = data.frame(id , call_drop_rate , rating, support_from_government)
> tele_analysis1
  id call_drop_rate rating support_from_government
1  1             9      6                      6
2  2             6      5                      8
3  3             8      8                      7
4  4             1      6                     10
5  5             9     10                      8
6  6             7      8                      4
7  7             5      5                      7
8  8             9      7                      4
9  9             8      9                      7
10 10             3      8                      5
11 11             5      5                      5
12 12             3      6                      6
13 13             8      5                      7
14 14             8      9                      8
15 15             9     10                      7
16 16             7      8                      9
```

#CODE

```
cor(tele_analysis1)
```

#OUTPUT

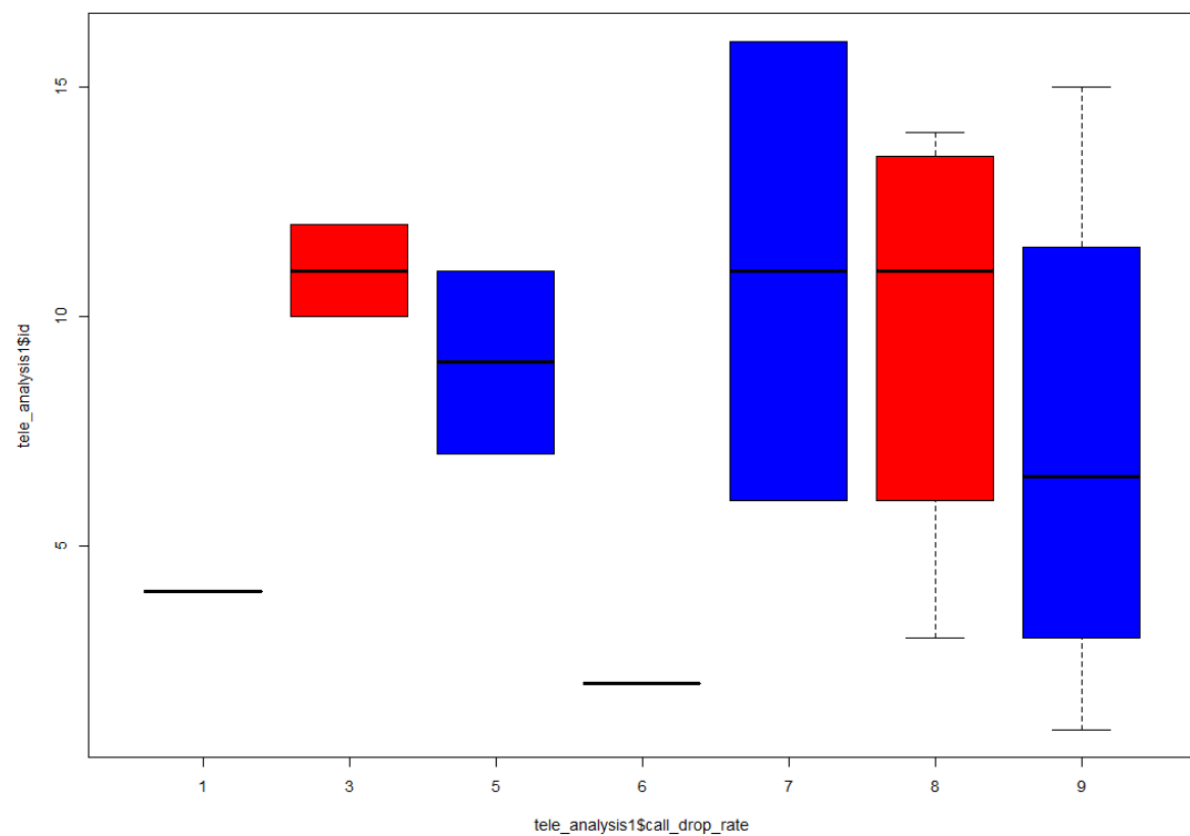
```
> cor(tele_analysis1)
```

	id	call_drop_rate	rating	support_from_government
id	1.00000000	0.03637093	0.25325209	0.01654079
call_drop_rate	0.03637093	1.00000000	0.44937758	-0.15340902
rating	0.25325209	0.44937758	1.00000000	0.08216866
support_from_government	0.01654079	-0.15340902	0.08216866	1.00000000

#CODE

```
boxplot(tele_analysis1$id~tele_analysis1$call_drop_rate,col=c("blue","red"))
```

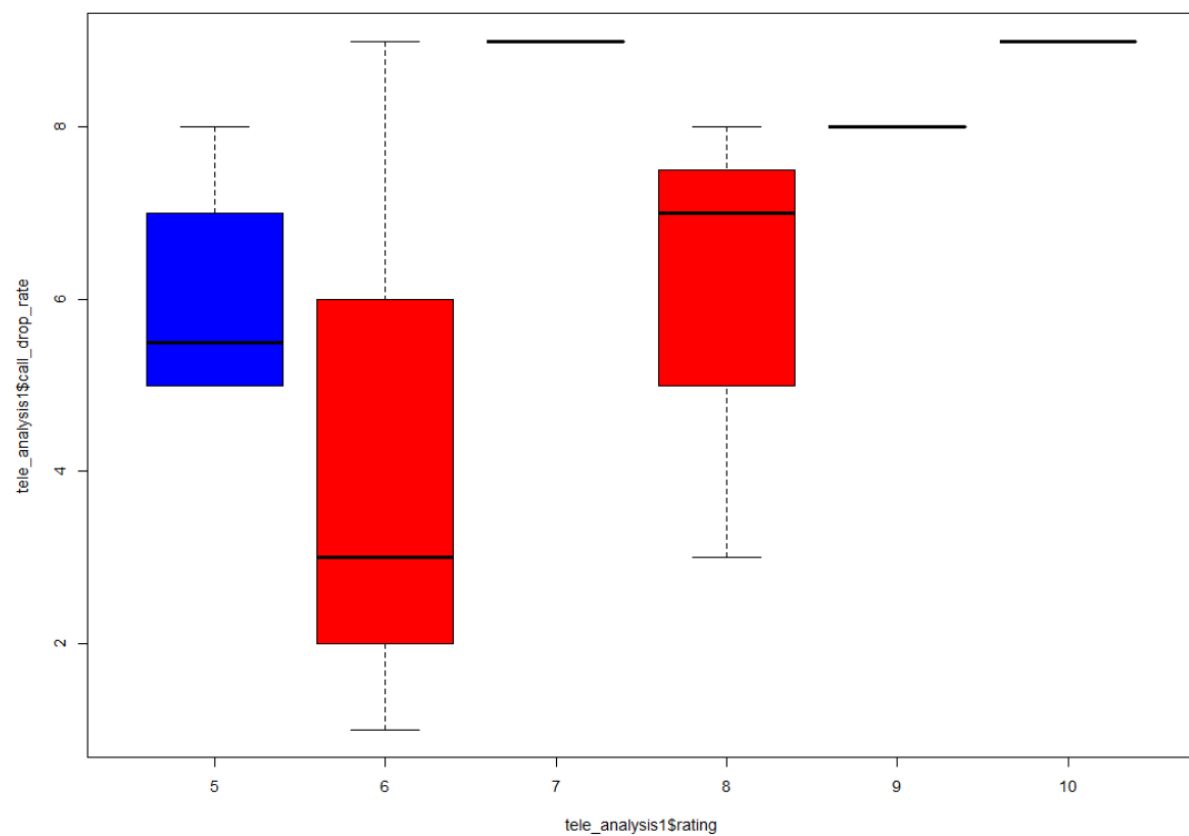
#OUTPUT



#CODE

```
boxplot(tele_analysis1$call_drop_rate~tele_analysis1$rating,col=c("blue","red"))
```

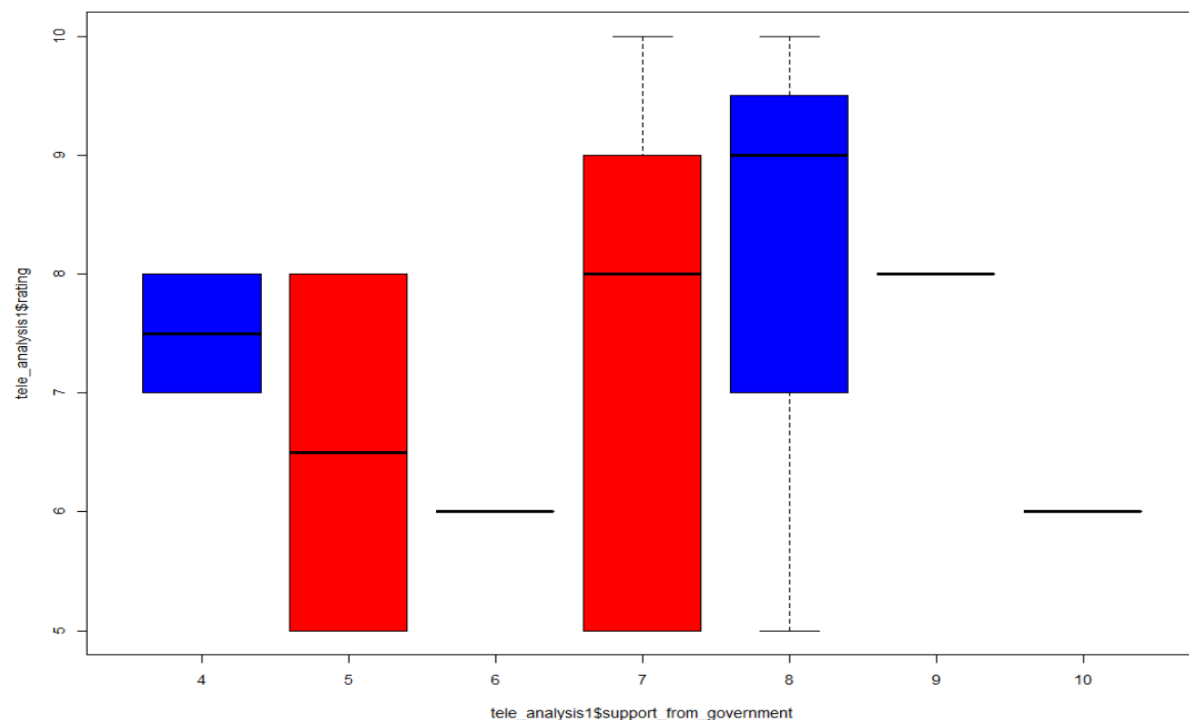
#OUTPUT



#CODE

```
boxplot(tele_analysis1$rating~tele_analysis1$support_from_government,col=c("blue","red"))
```

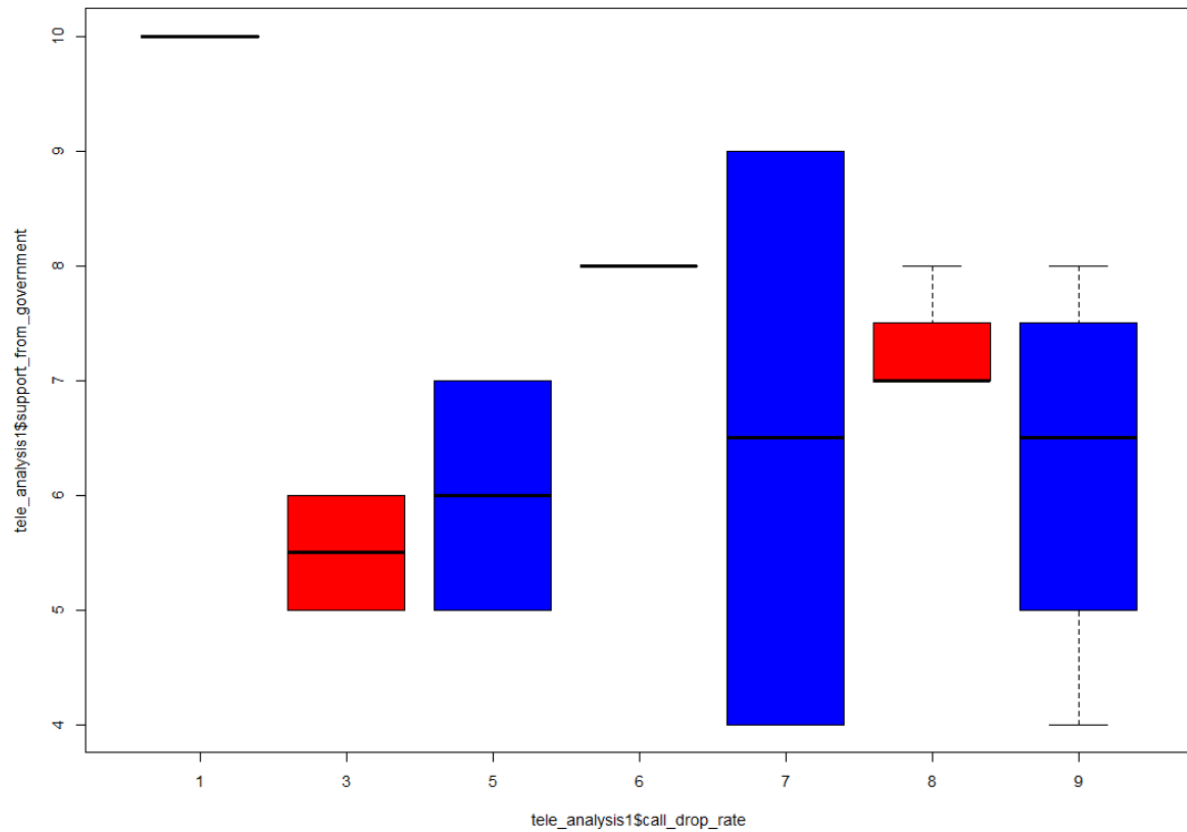
#OUTPUT



#CODE

```
boxplot(tele_analysis1$support_from_government~tele_analysis1$call_drop_rate,col=c("blue","red"))
```

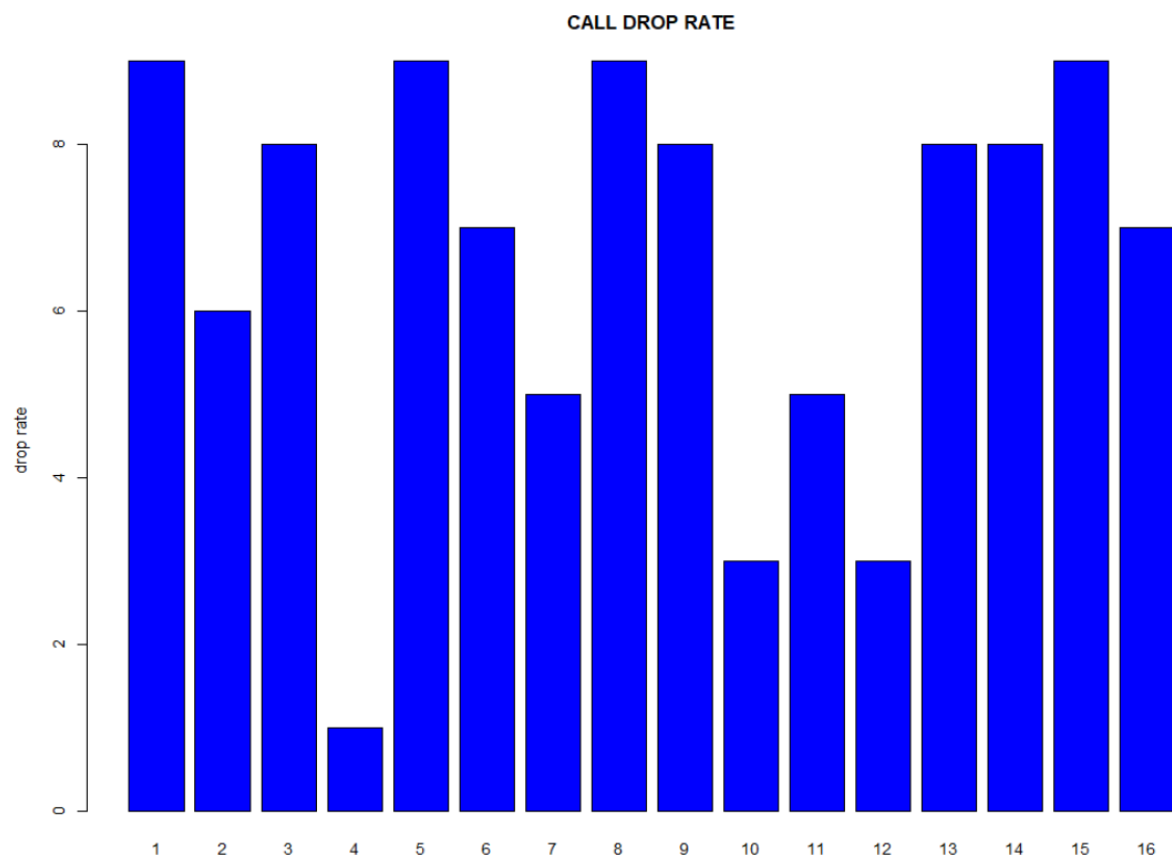
#OUTPUT



#CODE

```
barplot(tele_analysis1$call_drop_rate,names.arg =tele_analysis1$id,xlab = "id",ylab = "drop rate",col ="blue",main = "CALL DROP RATE")
```

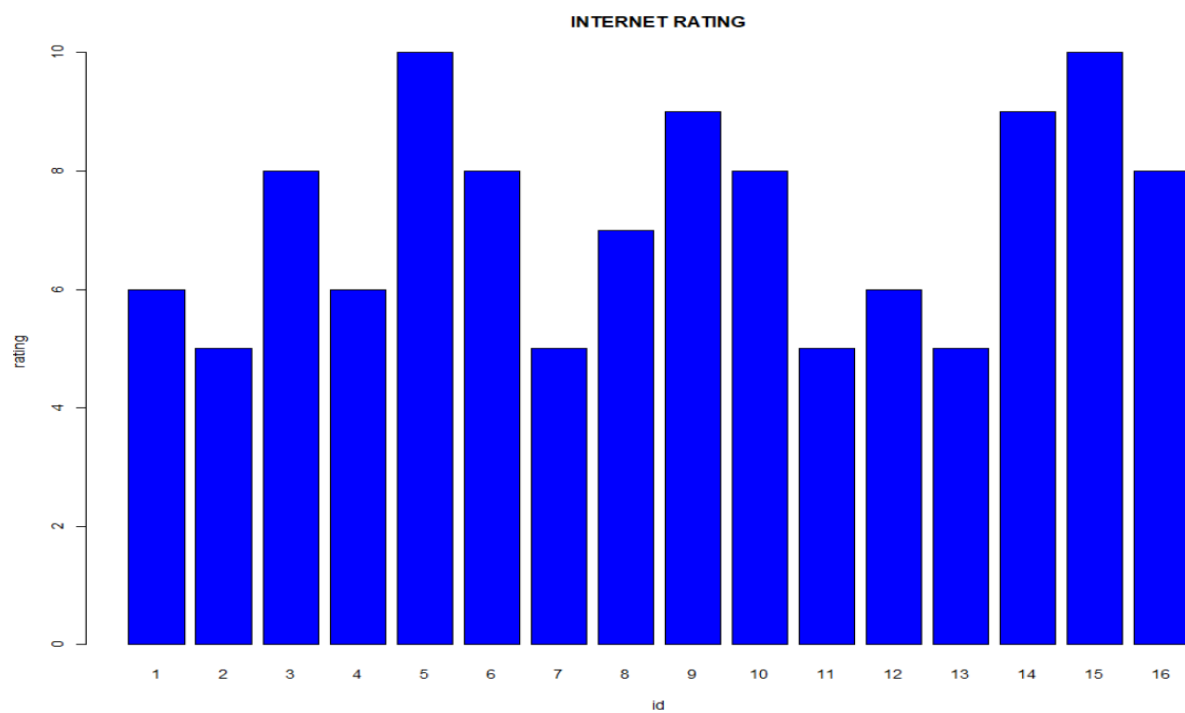
#OUTPUT



#CODE

```
barplot(tele_analysis1$rating,names.arg =tele_analysis1$id,xlab = "id",ylab = "rating",col
="blue",main = "INTERNET RATING")
```

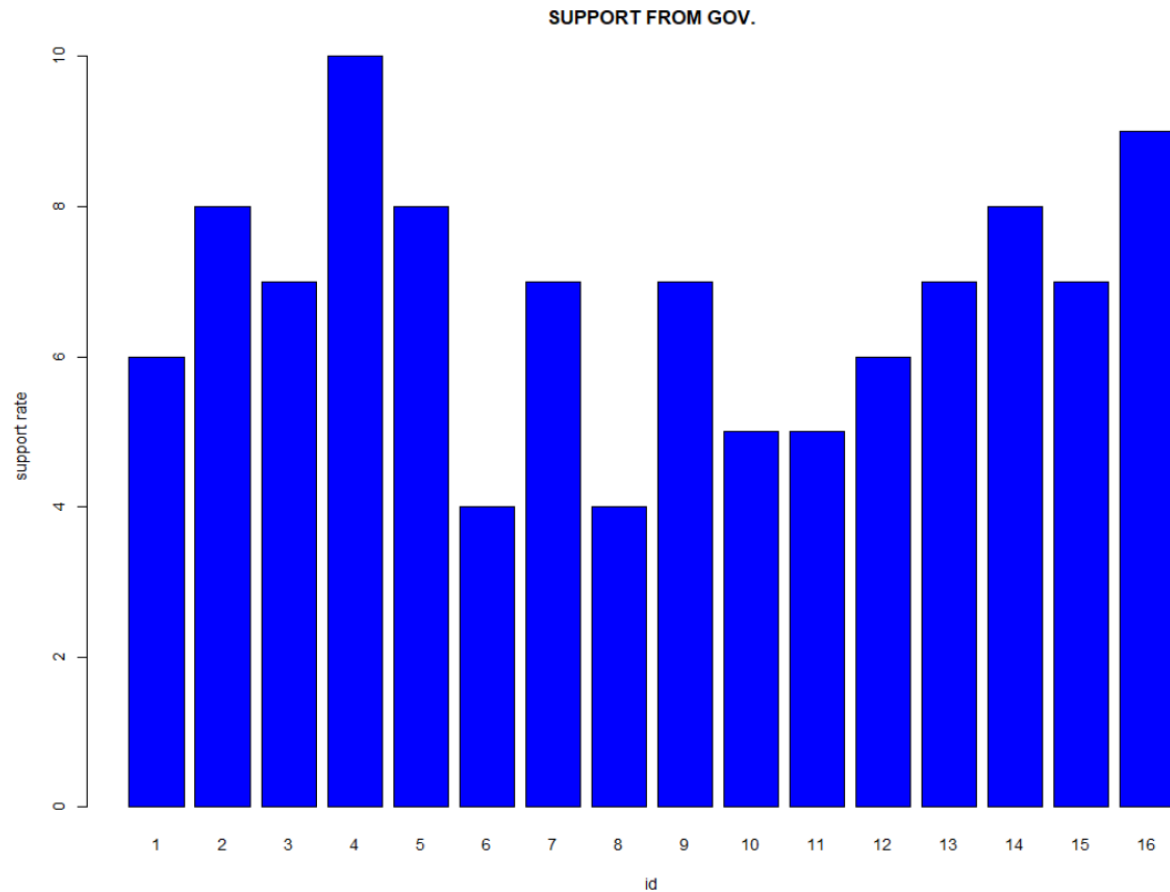
#OUTPUT



#CODE

```
barplot(tele_analysis1$support_from_government,names.arg =tele_analysis1$id,xlab = "id",ylab = "support rate",col ="blue",main = "SUPPORT FROM GOV.")
```

#OUTPUT



#CODE

```
reg1 = lm(tele_analysis1$id~tele_analysis1$call_drop_rate)
```

```
plot(tele_analysis1$id,tele_analysis1$call_drop_rate)
```

```
abline(reg1)
```

```
summary(reg1)
```

#OUTPUT

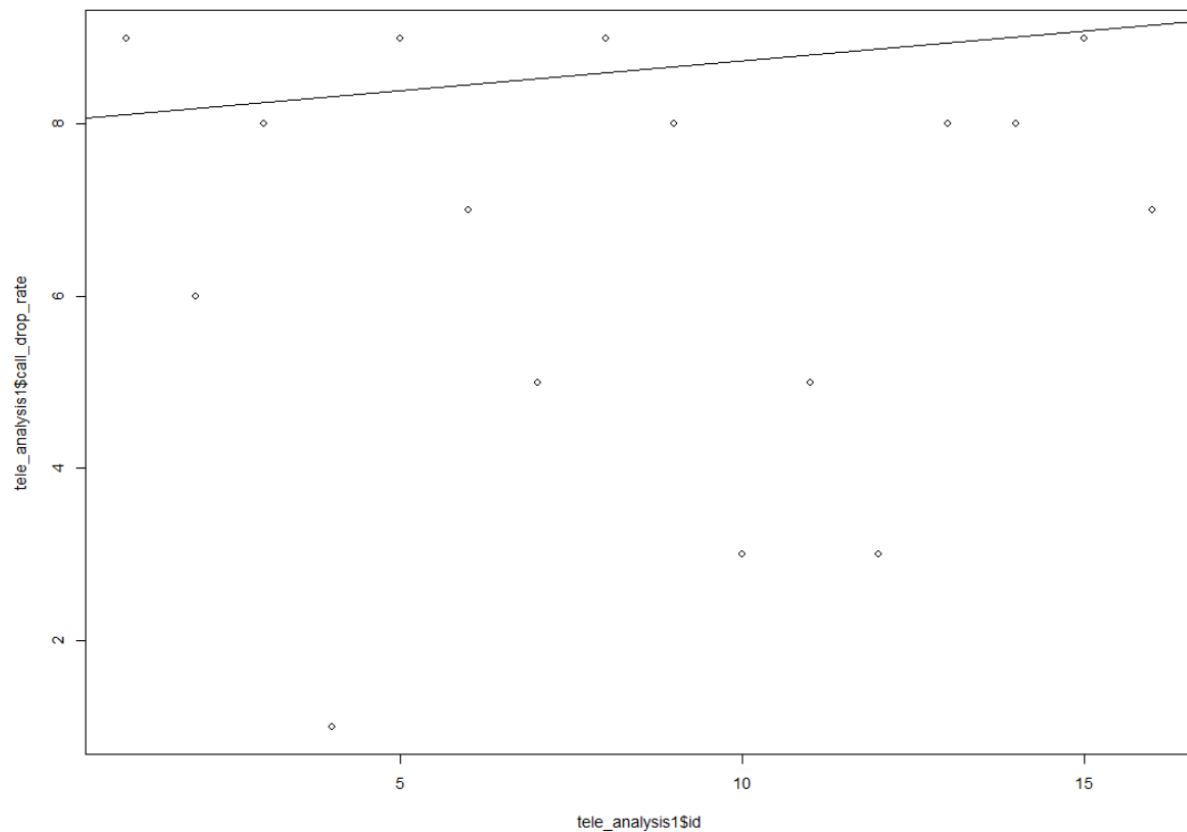
```
> summary(reg1)

Call:
lm(formula = tele_analysis1$id ~ tele_analysis1$call_drop_rate)

Residuals:
    Min       1Q   Median       3Q      Max
-7.6687 -3.7803 -0.1341  3.9100  7.4697

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)   8.04591    3.55459   2.264   0.040 *
tele_analysis1$call_drop_rate  0.06919    0.50812   0.136   0.894
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 4.925 on 14 degrees of freedom
Multiple R-squared:  0.001323, Adjusted R-squared: -0.07001
F-statistic: 0.01854 on 1 and 14 DF, p-value: 0.8936
```



#CODE

```
reg2 = lm(tele_analysis1$call_drop_rate~tele_analysis1$rating)
plot(tele_analysis1$call_drop_rate,tele_analysis1$rating)
abline(reg2)
summary(reg2)
```

#OUTPUT

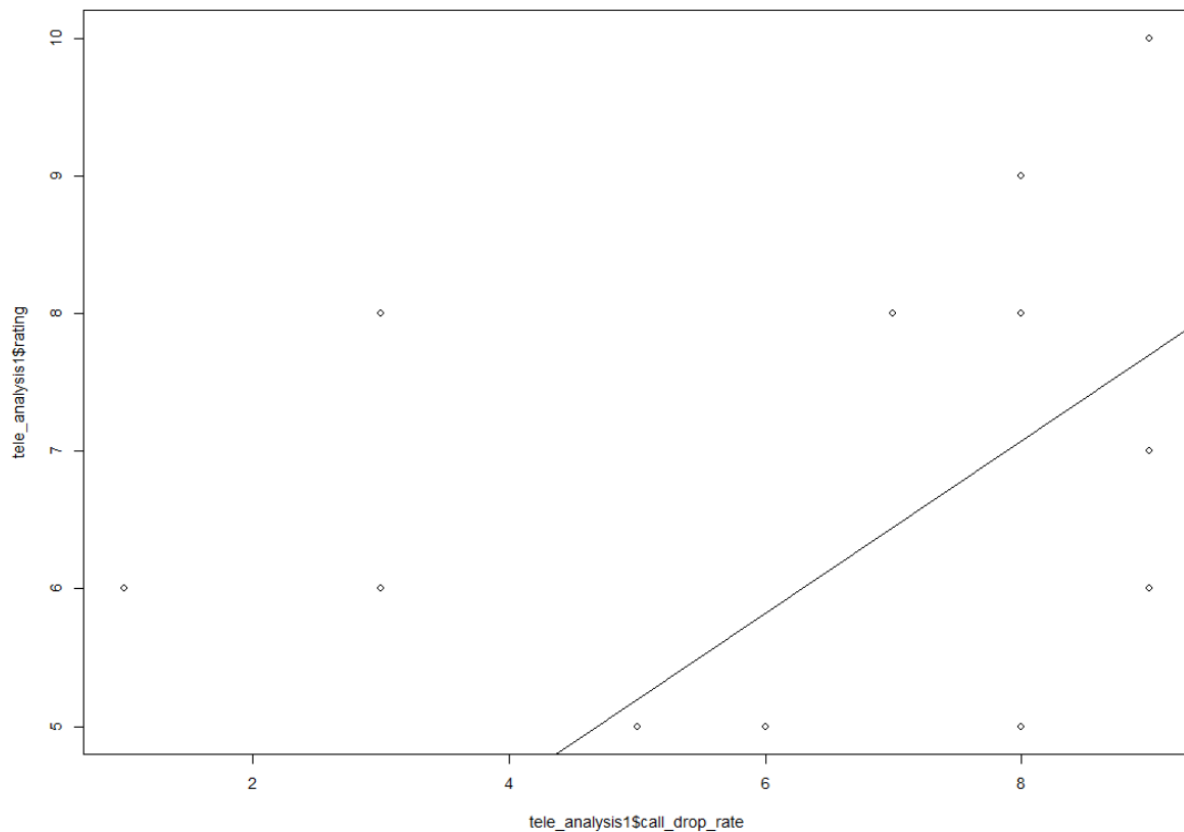
```
> summary(reg2)
```

```
Call:
lm(formula = tele_analysis1$call_drop_rate ~ tele_analysis1$rating)

Residuals:
    Min       1Q   Median       3Q      Max
-4.8194 -0.1935  0.3032  0.8371  3.1806

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)    2.0645     2.4588   0.840   0.4152
tele_analysis1$rating  0.6258     0.3325   1.882   0.0808 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 2.314 on 14 degrees of freedom
Multiple R-squared:  0.2019,    Adjusted R-squared:  0.1449
F-statistic: 3.543 on 1 and 14 DF,  p-value: 0.08077
```



#CODE

```
reg3 = lm(tele_analysis1$rating~tele_analysis1$support_from_government)
plot(tele_analysis1$rating,tele_analysis1$support_from_government)
abline(reg3)
summary(reg3)
```

#OUTPUT

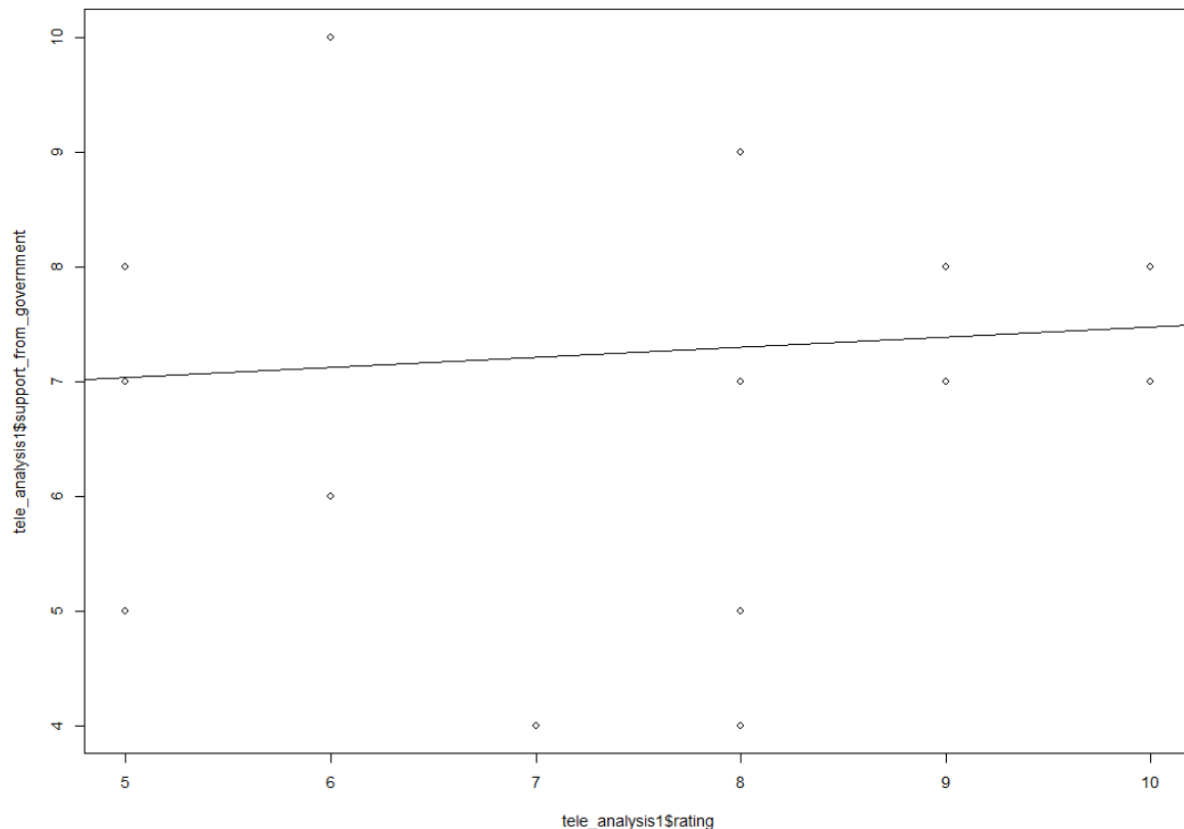
```
> summary(reg3)

Call:
lm(formula = tele_analysis1$rating ~ tele_analysis1$support_from_government)

Residuals:
    Min       1Q   Median       3Q      Max
-2.2965 -1.6119  0.3343  1.2151  2.7907

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)    6.59884    1.96368   3.360  0.00467 **
tele_analysis1$support_from_government  0.08721    0.28270   0.308  0.76225
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.854 on 14 degrees of freedom
Multiple R-squared:  0.006752, Adjusted R-squared:  -0.06419
F-statistic: 0.09517 on 1 and 14 DF,  p-value: 0.7623
```



#CODE

```
reg4 = lm(tele_analysis1$support_from_government~tele_analysis1$call_drop_rate)
```

```
plot(tele_analysis1$support_from_government,tele_analysis1$call_drop_rate)
```

```
abline(reg4)
```

```
summary(reg4)
```

#OUTPUT

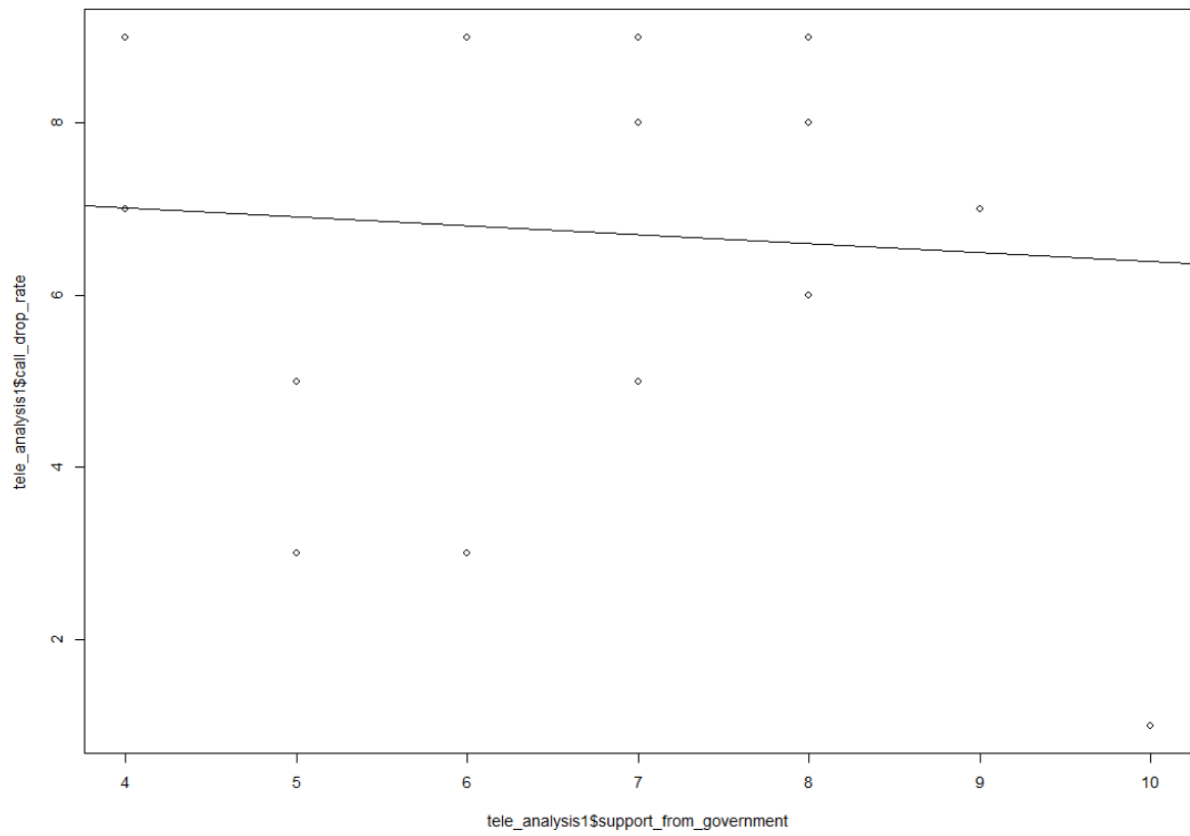
```
> summary(reg4)

Call:
lm(formula = tele_analysis1$support_from_government ~ tele_analysis1$call_drop_rate)

Residuals:
    Min       1Q   Median       3Q      Max
-2.7046 -1.3179  0.3992  1.2435  2.6726

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)    7.4311     1.2500   5.945 3.58e-05 ***
tele_analysis1$call_drop_rate -0.1038     0.1787  -0.581   0.571
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.732 on 14 degrees of freedom
Multiple R-squared:  0.02353,    Adjusted R-squared:  -0.04621
F-statistic: 0.3374 on 1 and 14 DF,  p-value: 0.5706
```



INFERENCE:

- WE TOOK THE DATA FROM KAGGLE.COM AND DATASET WAS APPROVED BY OUR RESPECTED FACULTY .
- WE DID THE DATA ANALYSIS OF THE DATASET IN DETAIL USING R LANGUAGE .
- MADE A DATAFRAME
- DID EXPLORATORY ANALYSIS
- PLOTTED BOXPLOT , BARPLOT , PIE CHARTS ETC.
- DID REGRESSION
- HENCE WE CAN SAY THAT WE HAVE SUCCESSFULLY EXPLOITED R LANGUAGE TO ANALYSE THE DATASET.