Nama : David Kevin Hutabarat

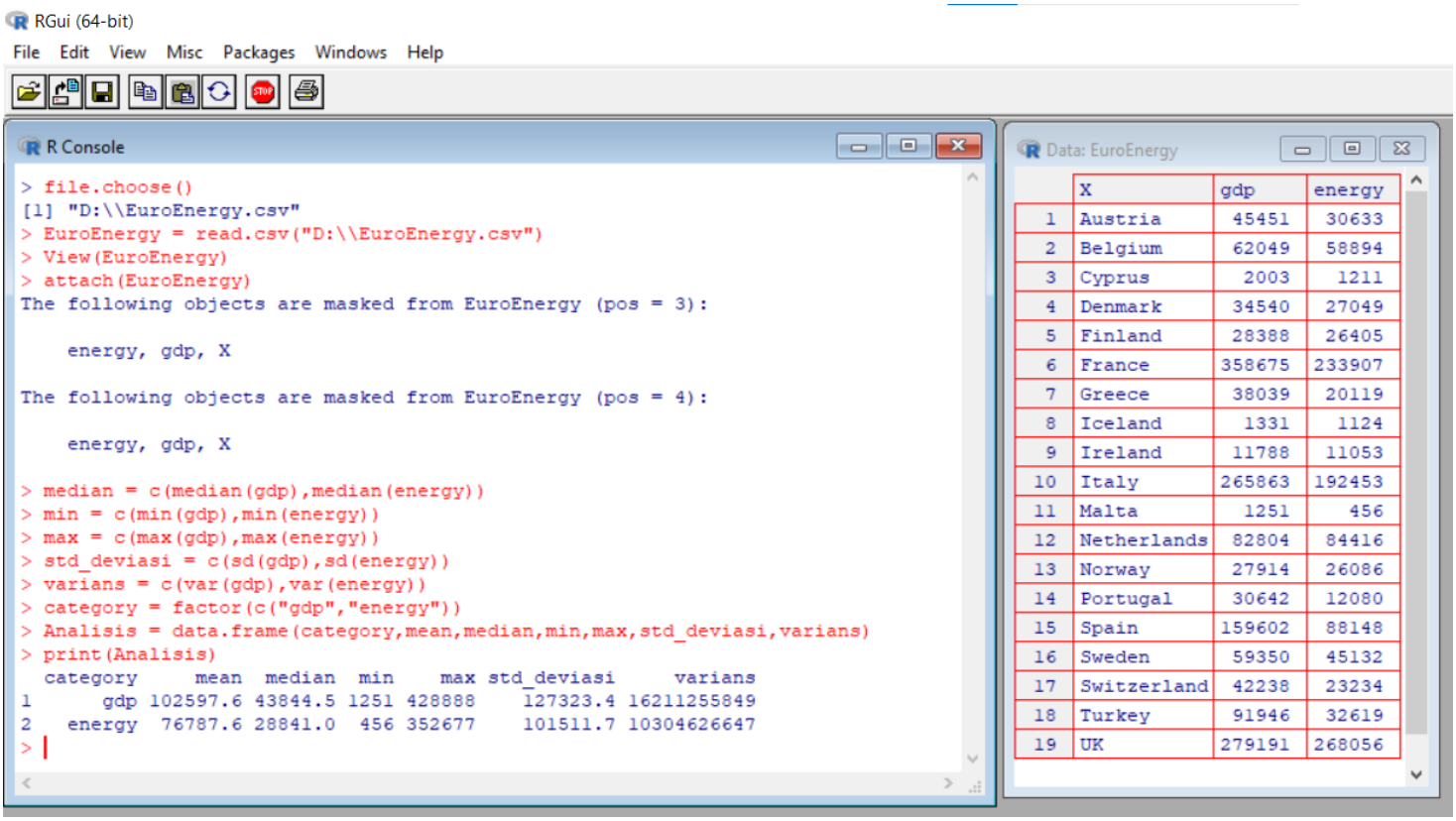
NIM : 190803100

Kelas : VB – Statistika Komputasi

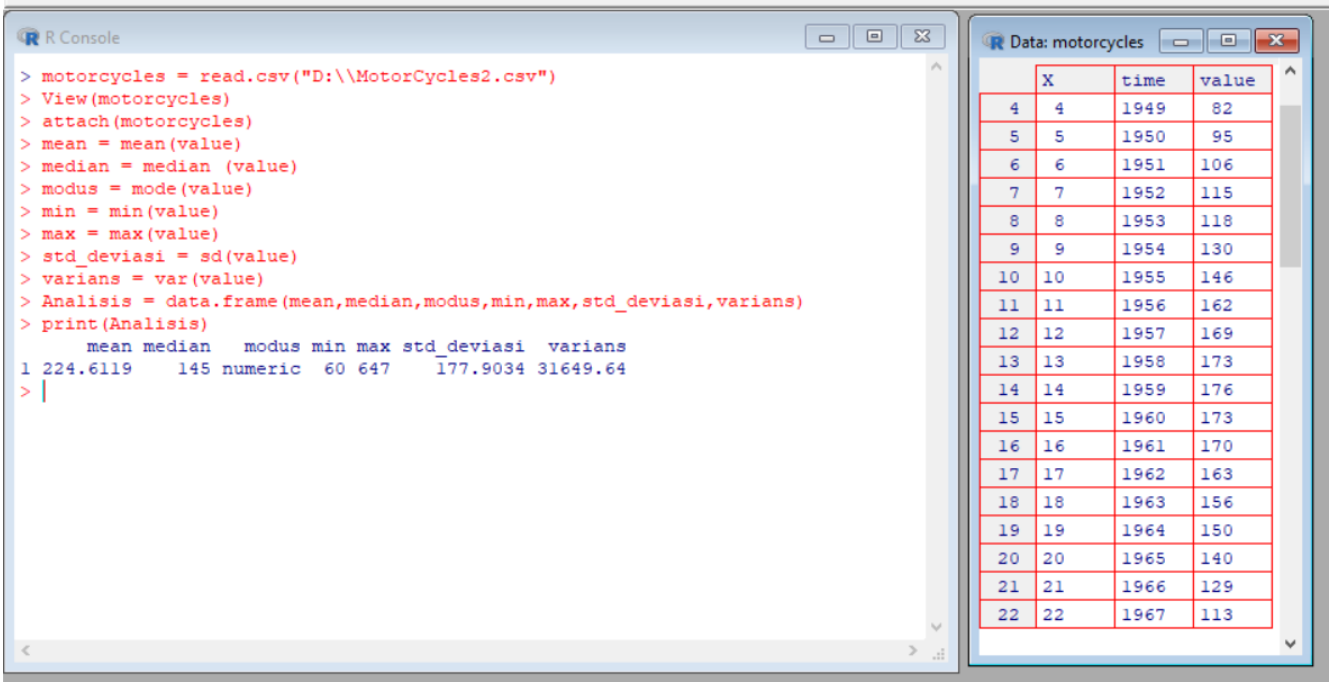
DATA KUANTITATIF:

1. Datasets “EuroEnergy” yaitu data frame mengenai konsumsi energi di Eropa (sumber: https://vincentarelbundock.github.io/Rdatasets/datasets.html)

Pengerjaan dengan R Console:



2. Dataset “Motorcycles2” yaitu data time series dari jumlah sepeda motor di Belanda (dalam ribu)
   Sumber: https://vincentarelbundock.github.io/Rdatasets/doc/AER/MotorCycles.html

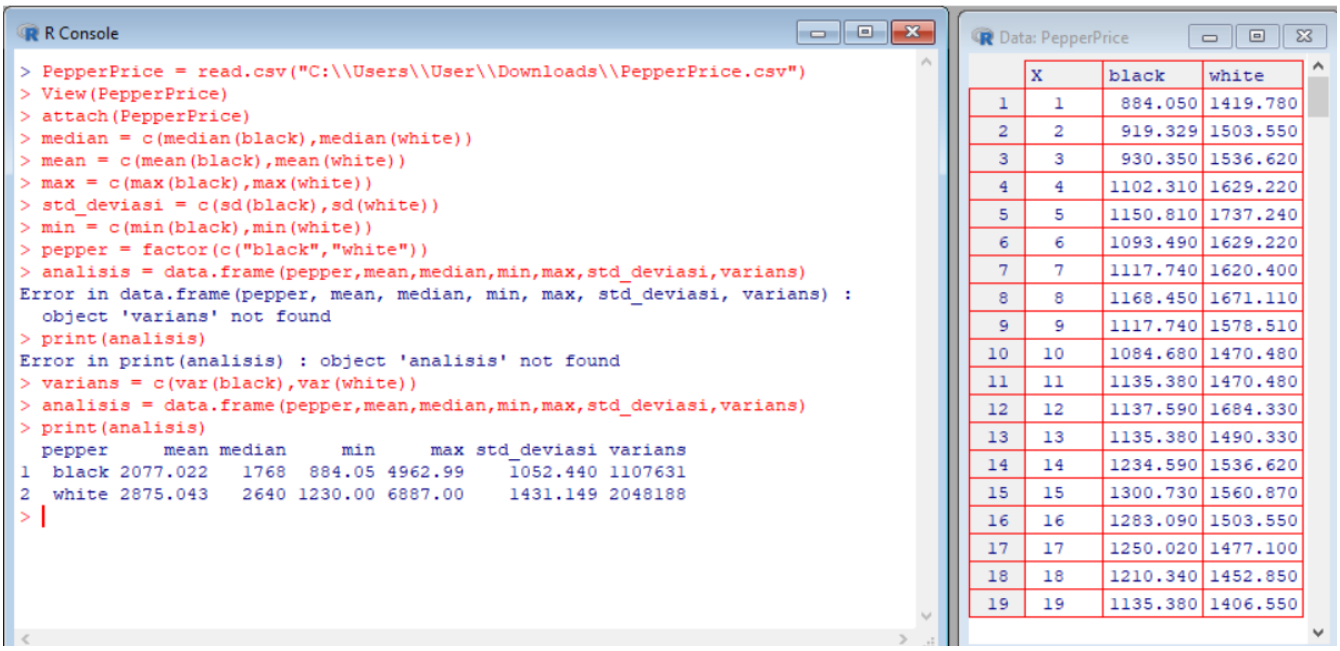


```
> motorcycles = read.csv("D:\\MotorCycles2.csv")
> View(motorcycles)
> attach(motorcycles)
> mean = mean(value)
> median = median (value)
> modus = mode(value)
> min = min(value)
> max = max(value)
> std_deviasi = sd(value)
> varians = var(value)
> Analisis = data.frame(mean,median,modus,min,max,std_deviasi,varians)
> print(Analisis)
      mean median   modus min max std_deviasi  varians
1 224.6119    145 numeric  60 647    177.9034 31649.64
>
```

Data: motorcycles

	X	time	value
4	4	1949	82
5	5	1950	95
6	6	1951	106
7	7	1952	115
8	8	1953	118
9	9	1954	130
10	10	1955	146
11	11	1956	162
12	12	1957	169
13	13	1958	173
14	14	1959	176
15	15	1960	173
16	16	1961	170
17	17	1962	163
18	18	1963	156
19	19	1964	150
20	20	1965	140
21	21	1966	129
22	22	1967	113

3. Dataset “PepperPrice” yaitu data time series dari rata-rata harga black dan white pepper per bulan dalam US Dollar per ton.
   Sumber: https://vincentarelbundock.github.io/Rdatasets/doc/AER/PepperPrice.html



```
> PepperPrice = read.csv("C:\\Users\\User\\Downloads\\PepperPrice.csv")
> View(PepperPrice)
> attach(PepperPrice)
> median = c(median(black),median(white))
> mean = c(mean(black),mean(white))
> max = c(max(black),max(white))
> std_deviasi = c(sd(black),sd(white))
> min = c(min(black),min(white))
> pepper = factor(c("black","white"))
> analisis = data.frame(pepper,mean,median,min,max,std_deviasi,varians)
Error in data.frame(pepper, mean, median, min, max, std_deviasi, varians) :
  object 'varians' not found
> print(analisis)
Error in print(analisis) : object 'analisis' not found
> varians = c(var(black),var(white))
> analisis = data.frame(pepper,mean,median,min,max,std_deviasi,varians)
> print(analisis)
  pepper     mean median     min     max std_deviasi varians
1  black 2077.022   1768  884.05 4962.99    1052.440 1107631
2  white 2875.043   2640 1230.00 6887.00    1431.149 2048188
>
```

Data: PepperPrice

	X	black	white
1	1	884.050	1419.780
2	2	919.329	1503.550
3	3	930.350	1536.620
4	4	1102.310	1629.220
5	5	1150.810	1737.240
6	6	1093.490	1629.220
7	7	1117.740	1620.400
8	8	1168.450	1671.110
9	9	1117.740	1578.510
10	10	1084.680	1470.480
11	11	1135.380	1470.480
12	12	1137.590	1684.330
13	13	1135.380	1490.330
14	14	1234.590	1536.620
15	15	1300.730	1560.870
16	16	1283.090	1503.550
17	17	1250.020	1477.100
18	18	1210.340	1452.850
19	19	1135.380	1406.550

Source code:

```
PepperPrice = read.csv("C:\\Users\\User\\Downloads\\PepperPrice.csv")
> View(PepperPrice)
> attach(PepperPrice)
> median = c(median(black),median(white))
> mean = c(mean(black),mean(white))
> max = c(max(black),max(white))
> std_deviasi = c(sd(black),sd(white))
> min = c(min(black),min(white))
> pepper = factor(c("black","white"))
> varians = c(var(black),var(white))
> analisis = data.frame(pepper,mean,median,min,max,std_deviasi,varians)
> print(analisis)
  pepper     mean median     min     max std_deviasi varians
1  black 2077.022   1768  884.05 4962.99    1052.440 1107631
2  white 2875.043   2640 1230.00 6887.00    1431.149 2048188
```

DATA KUALITATIF:

4. Dataset “ProgramEffectiveness” yaitu dataset yang memeriksa apakah metode mengajar ekonomi yang baru berpengaruh pada performa peserta pada materi ekonomi selanjutnya

Sumber: https://vincentarelbundock.github.io/Rdatasets/doc/AER/ProgramEffectiveness.html

Source code:

```
file.choose()
[1] "C:\\Users\\User\\Downloads\\ProgramEffectiveness.csv"
> PE = read.csv("C:\\Users\\User\\Downloads\\ProgramEffectiveness.csv")
> View(PE)
> attach(PE)
> analisis = table(grade,participation)
```

> print(analisis)

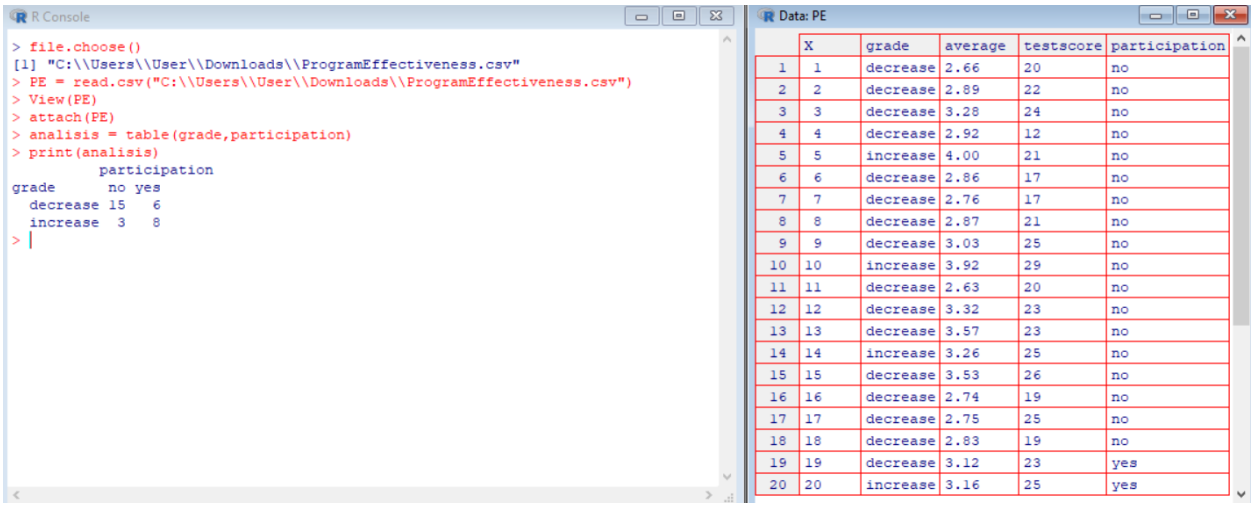
participation

grade no yes

decrease 15 6

increase 3 8

Tampilan pada R console:



R Console

```
> file.choose()
[1] "C:\\Users\\User\\Downloads\\ProgramEffectiveness.csv"
> PE = read.csv("C:\\Users\\User\\Downloads\\ProgramEffectiveness.csv")
> View(PE)
> attach(PE)
> analisis = table(grade,participation)
> print(analisis)
          participation
grade      no yes
  decrease 15   6
  increase  3   8
>
```

Data: PE

	X	grade	average	testscore	participation
1	1	decrease	2.66	20	no
2	2	decrease	2.89	22	no
3	3	decrease	3.28	24	no
4	4	decrease	2.92	12	no
5	5	increase	4.00	21	no
6	6	decrease	2.86	17	no
7	7	decrease	2.76	17	no
8	8	decrease	2.87	21	no
9	9	decrease	3.03	25	no
10	10	increase	3.92	29	no
11	11	decrease	2.63	20	no
12	12	decrease	3.32	23	no
13	13	decrease	3.57	23	no
14	14	increase	3.26	25	no
15	15	decrease	3.53	26	no
16	16	decrease	2.74	19	no
17	17	decrease	2.75	25	no
18	18	decrease	2.83	19	no
19	19	decrease	3.12	23	yes
20	20	increase	3.16	25	yes

5. Dataset “ShipAccidents” adalah data frame tentang kecelakaan kapal yang berisi 40 observasi atas 5 tipe kapal pada 4 tahun konstruksi dan 2 periode tahun pelayaran.

Sumber: https://vincentarelbundock.github.io/Rdatasets/doc/AER/ShipAccidents.html

Source code:

SA = read.csv("C:\\Users\\User\\Downloads\\ShipAccidents.csv")

> View(SA)

> attach(SA)

> type.table = table(type)

> print(type.table)

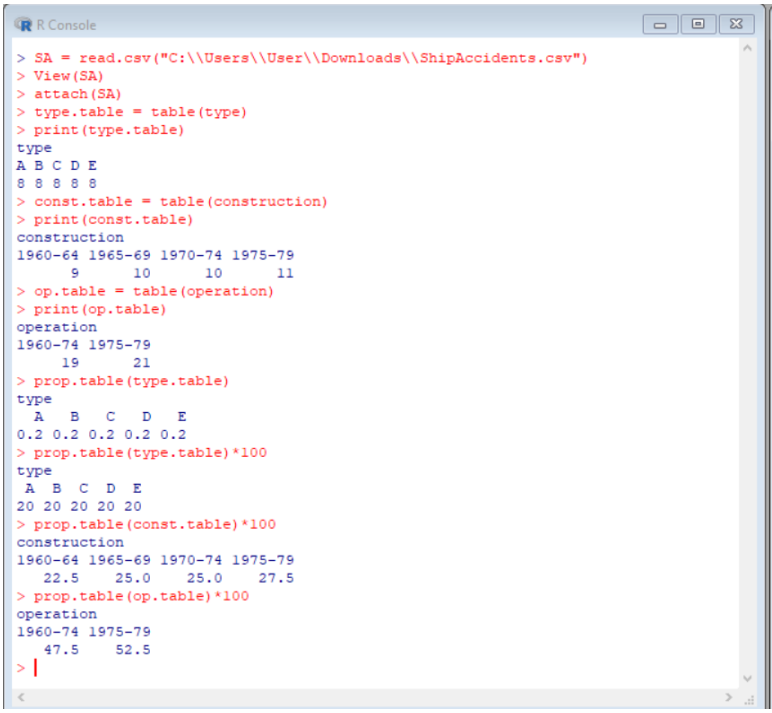
type

A B C D E

8 8 8 8 8

```
> const.table = table(construction)
> print(const.table)
construction
1960-64 1965-69 1970-74 1975-79
      9      10      10      11
> op.table = table(operation)
> print(op.table)
operation
1960-74 1975-79
     19      21
> prop.table(type.table)
type
  A   B   C   D   E
0.2 0.2 0.2 0.2 0.2
> prop.table(type.table)*100
type
 A  B  C  D  E
20 20 20 20 20
> prop.table(const.table)*100
construction
1960-64 1965-69 1970-74 1975-79
   22.5    25.0    25.0    27.5
> prop.table(op.table)*100
operation
1960-74 1975-79
   47.5    52.5
```

Tampilan pada R Console:



```
> SA = read.csv("C:\\Users\\User\\Downloads\\ShipAccidents.csv")
> View(SA)
> attach(SA)
> type.table = table(type)
> print(type.table)
type
A B C D E
8 8 8 8 8
> const.table = table(construction)
> print(const.table)
construction
1960-64 1965-69 1970-74 1975-79
      9      10      10      11
> op.table = table(operation)
> print(op.table)
operation
1960-74 1975-79
     19      21
> prop.table(type.table)
type
  A   B   C   D   E
0.2 0.2 0.2 0.2 0.2
> prop.table(type.table)*100
type
 A  B  C  D  E
20 20 20 20 20
> prop.table(const.table)*100
construction
1960-64 1965-69 1970-74 1975-79
   22.5    25.0    25.0    27.5
> prop.table(op.table)*100
operation
1960-74 1975-79
   47.5    52.5
>
```

Data: SA

	X	type	construction	operation	service	incidents
1	1	A	1960-64	1960-74	127	0
2	2	A	1960-64	1975-79	63	0
3	3	A	1965-69	1960-74	1095	3
4	4	A	1965-69	1975-79	1095	4
5	5	A	1970-74	1960-74	1512	6
6	6	A	1970-74	1975-79	3353	18
7	7	A	1975-79	1960-74	0	0
8	8	A	1975-79	1975-79	2244	11
9	9	B	1960-64	1960-74	44882	39
10	10	B	1960-64	1975-79	17176	29
11	11	B	1965-69	1960-74	28609	58
12	12	B	1965-69	1975-79	20370	53
13	13	B	1970-74	1960-74	7064	12
14	14	B	1970-74	1975-79	13099	44
15	15	B	1975-79	1960-74	0	0
16	16	B	1975-79	1975-79	7117	18
17	17	C	1960-64	1960-74	1179	1
18	18	C	1960-64	1975-79	552	1
19	19	C	1965-69	1960-74	781	0
20	20	C	1965-69	1975-79	676	1
21	21	C	1970-74	1960-74	783	6
22	22	C	1970-74	1975-79	1948	2
23	23	C	1975-79	1960-74	0	0
24	24	C	1975-79	1975-79	274	1
25	25	D	1960-64	1960-74	251	0
26	26	D	1960-64	1975-79	105	0
27	27	D	1965-69	1960-74	288	0
28	28	D	1965-69	1975-79	192	0

6. Dataset “UCBAdmissions” adalah dataset yang berisi penerimaan siswa di Berkeley pada 6 departemen terbesar pada tahun 1973 yang diklasifikasi berdasarkan status penerimaan dan jenis kelamin

Sumber: https://vincentarelbundock.github.io/Rdatasets/doc/datasets/UCBAdmissions.html

Source code:

adm = read.csv("C:\\Users\\User\\Downloads\\UCBAdmissions.csv")

> View(adm)

> admit.table = table(adm$Admit)

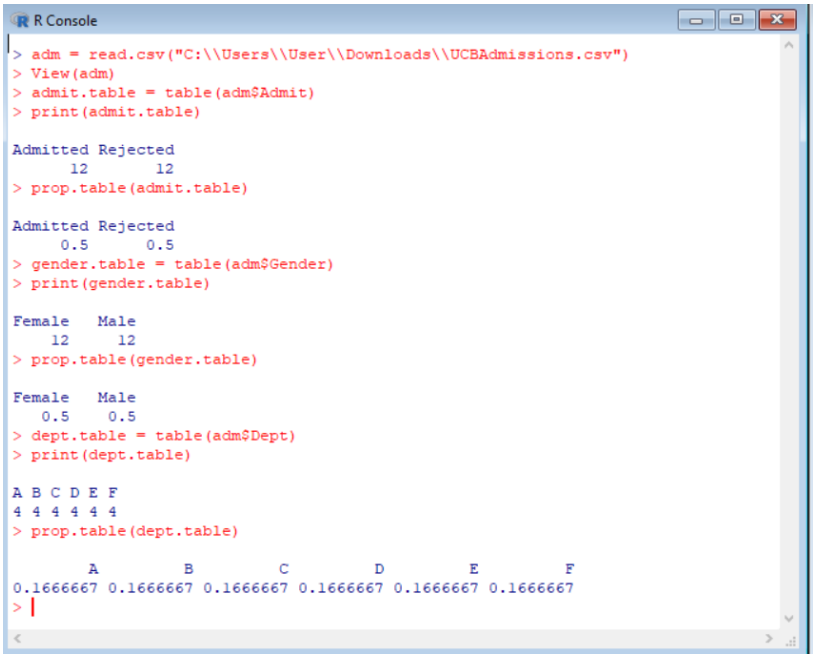
> print(admit.table)

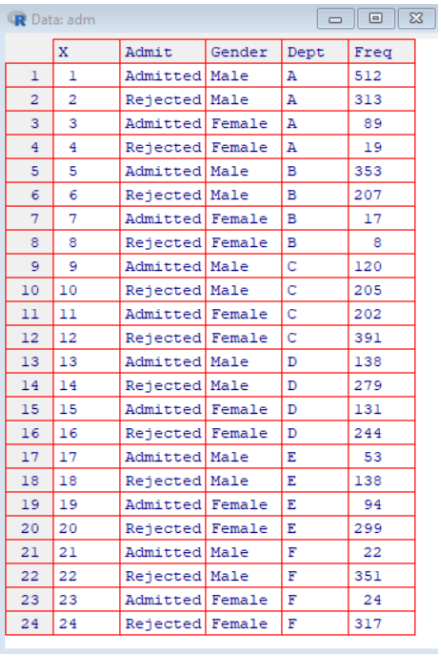
Admitted Rejected

12 12

```
> prop.table(admit.table)

Admitted Rejected
     0.5      0.5
> gender.table = table(adm$Gender)
> print(gender.table)

Female   Male
    12     12
> prop.table(gender.table)

Female   Male
  0.5    0.5
> dept.table = table(adm$Dept)
> print(dept.table)

A B C D E F
4 4 4 4 4 4
> prop.table(dept.table)

       A         B         C         D         E         F
0.1666667 0.1666667 0.1666667 0.1666667 0.1666667 0.1666667
```

Tampilan pada R console:





	X	Admit	Gender	Dept	Freq
1	1	Admitted	Male	A	512
2	2	Rejected	Male	A	313
3	3	Admitted	Female	A	89
4	4	Rejected	Female	A	19
5	5	Admitted	Male	B	353
6	6	Rejected	Male	B	207
7	7	Admitted	Female	B	17
8	8	Rejected	Female	B	8
9	9	Admitted	Male	C	120
10	10	Rejected	Male	C	205
11	11	Admitted	Female	C	202
12	12	Rejected	Female	C	391
13	13	Admitted	Male	D	138
14	14	Rejected	Male	D	279
15	15	Admitted	Female	D	131
16	16	Rejected	Female	D	244
17	17	Admitted	Male	E	53
18	18	Rejected	Male	E	138
19	19	Admitted	Female	E	94
20	20	Rejected	Female	E	299
21	21	Admitted	Male	F	22
22	22	Rejected	Male	F	351
23	23	Admitted	Female	F	24
24	24	Rejected	Female	F	317