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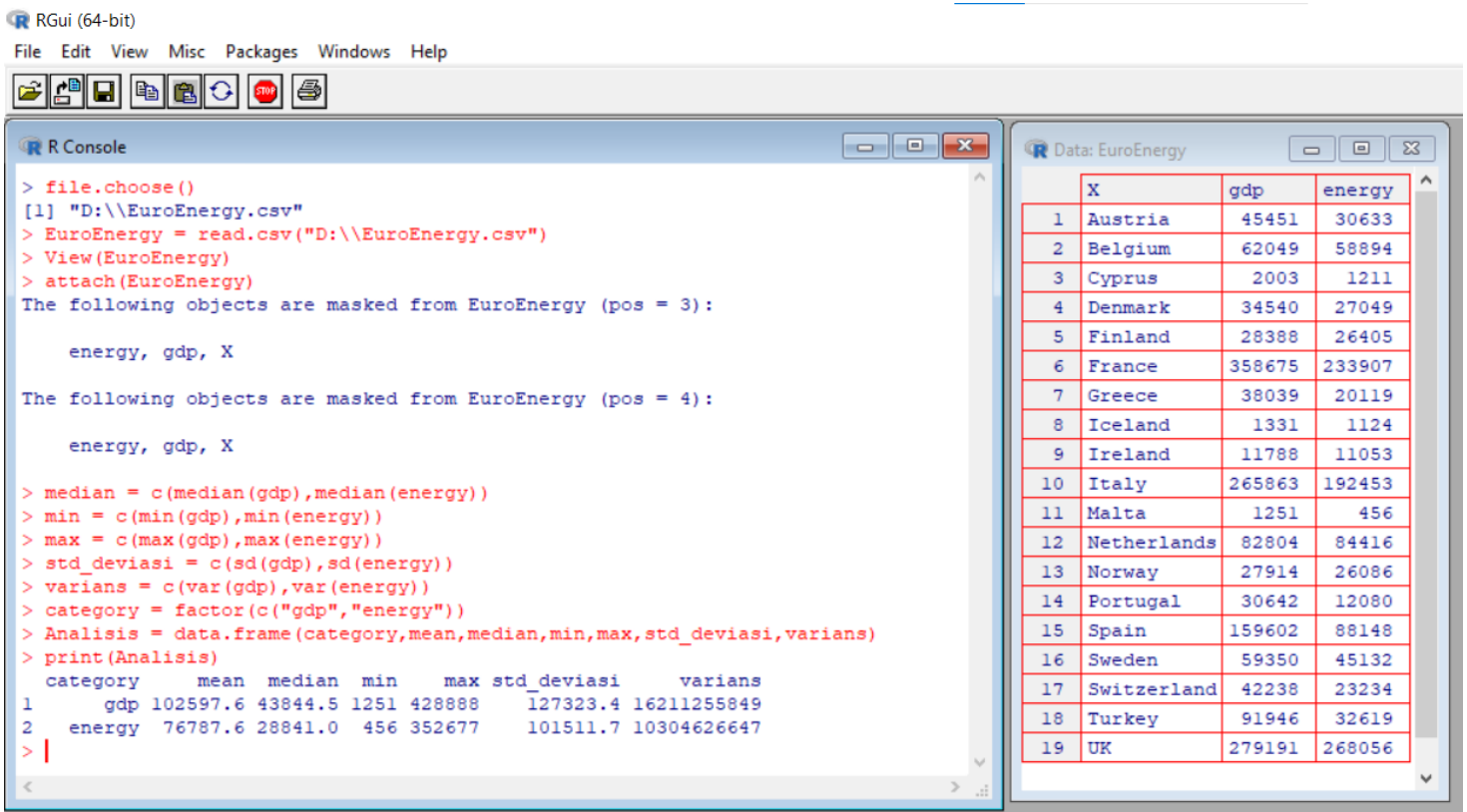
NIM : 190803100

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:



The screenshot displays the RGui (64-bit) interface. The R Console window on the left shows the following code and output:

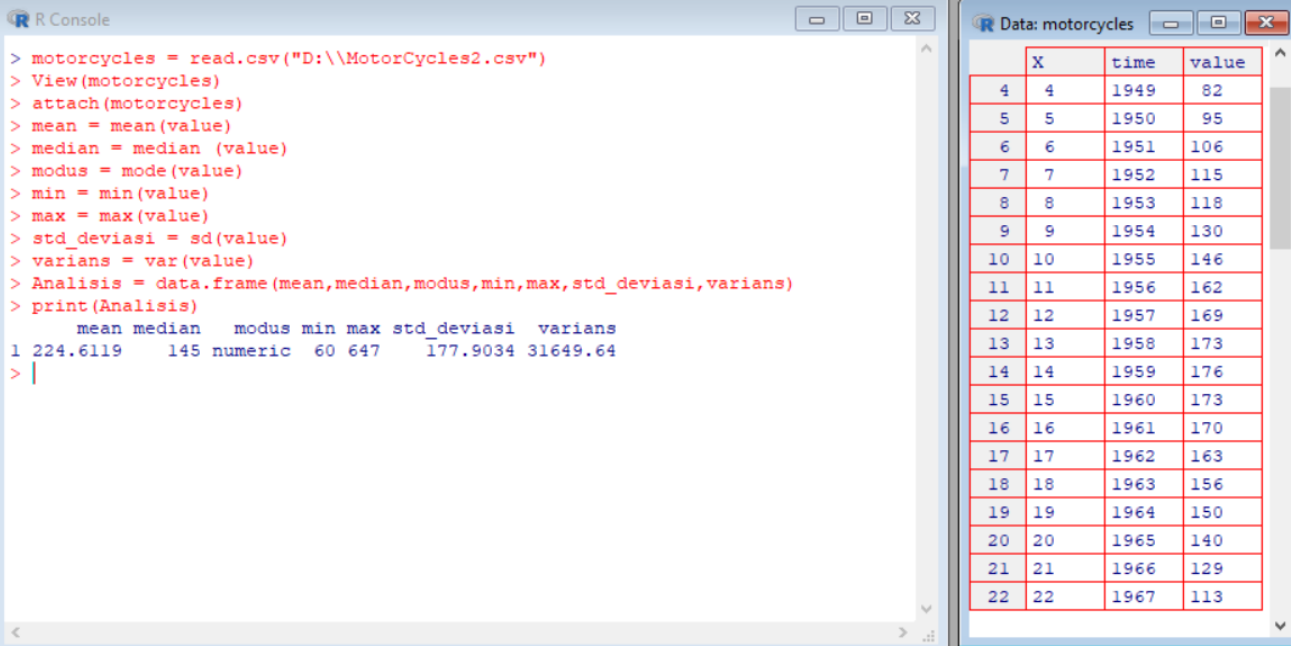
```
> file.choose()
[1] "D:\\EuroEnergy.csv"
> EuroEnergy = read.csv("D:\\EuroEnergy.csv")
> View(EuroEnergy)
> attach(EuroEnergy)
The following objects are masked from EuroEnergy (pos = 3):
  energy, gdp, X
The following objects are masked from EuroEnergy (pos = 4):
  energy, gdp, X
> median = c(median(gdp),median(energy))
> min = c(min(gdp),min(energy))
> max = c(max(gdp),max(energy))
> std_devisasi = c(sd(gdp),sd(energy))
> varians = c(var(gdp),var(energy))
> category = factor(c("gdp","energy"))
> Analisis = data.frame(category,mean,median,min,max,std_devisasi,variens)
> print(Analisis)
  category    mean  median   min    max std_devisasi  variens
1      gdp 102597.6 43844.5 1251 428888 127323.4 16211255849
2     energy  76787.6 28841.0  456 352677  101511.7 10304626647
```

The Data: EuroEnergy window on the right shows a table with 19 rows and 4 columns:

	X	gdp	energy
1	Austria	45451	30633
2	Belgium	62049	58894
3	Cyprus	2003	1211
4	Denmark	34540	27049
5	Finland	28388	26405
6	France	358675	233907
7	Greece	38039	20119
8	Iceland	1331	1124
9	Ireland	11788	11053
10	Italy	265863	192453
11	Malta	1251	456
12	Netherlands	82804	84416
13	Norway	27914	26086
14	Portugal	30642	12080
15	Spain	159602	88148
16	Sweden	59350	45132
17	Switzerland	42238	23234
18	Turkey	91946	32619
19	UK	279191	268056

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>



The screenshot shows the R Console window with the following code and output:

```
> 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,variens) > print(Analisis)
```

The output of the print function is:

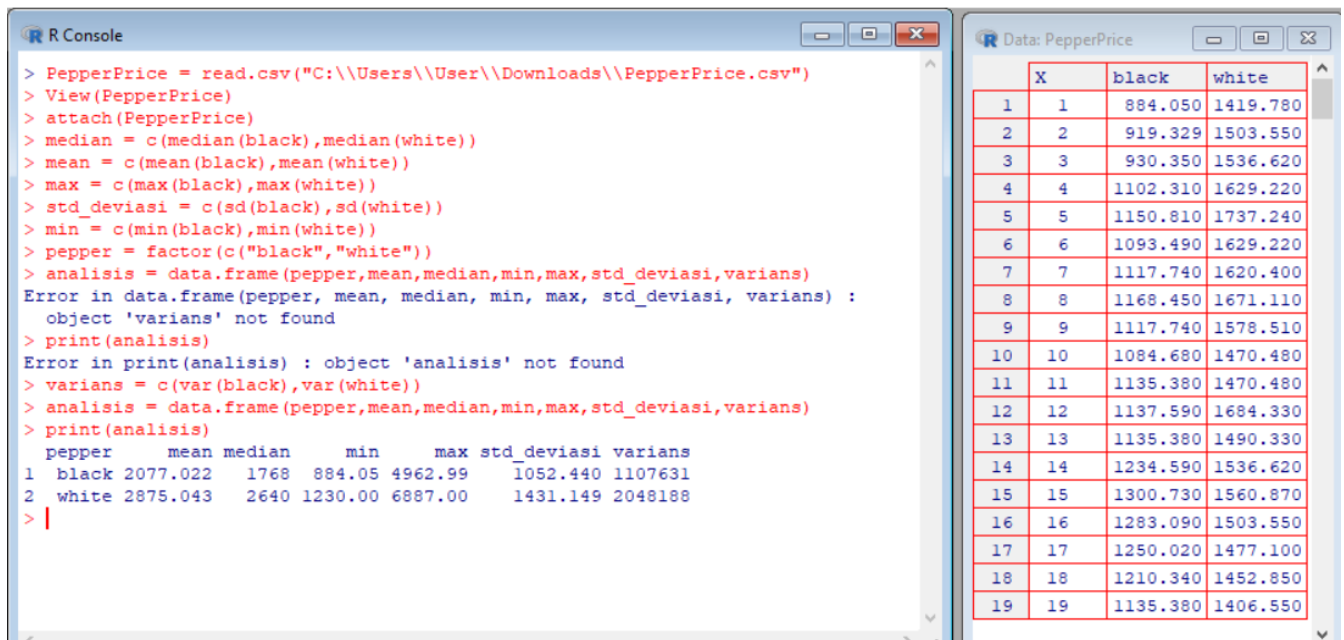
	mean	median	modus	min	max	std_deviasi	variens
1	224.6119	145	numeric	60	647	177.9034	31649.64

The Data: motorcycles window shows the following data:

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>



The screenshot shows the R Console window with the following code and output:

```
> 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,variens)
Error in data.frame(pepper, mean, median, min, max, std_deviasi, variens) :
  object 'variens' 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,variens)
> print(analisis)
```

The output of the print function is:

	pepper	mean	median	min	max	std_deviasi	variens
1	black	2077.022	1768	884.05	4962.99	1052.440	1107631
2	white	2875.043	2640	1230.00	6887.00	1431.149	2048188

The Data: PepperPrice window shows the following data:

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

      participation
grade    no yes
decrease 15  6
increase  3  8
```

Tampilan pada R console:

The screenshot shows the R Console on the left and the R Data Viewer on the right. The R Console displays the following code and output:

```
> 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 > |
```

The R Data Viewer shows the 'PE' dataset with the following columns: X, grade, average, testscore, and participation. The data is as follows:

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

- 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:

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

- 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
```

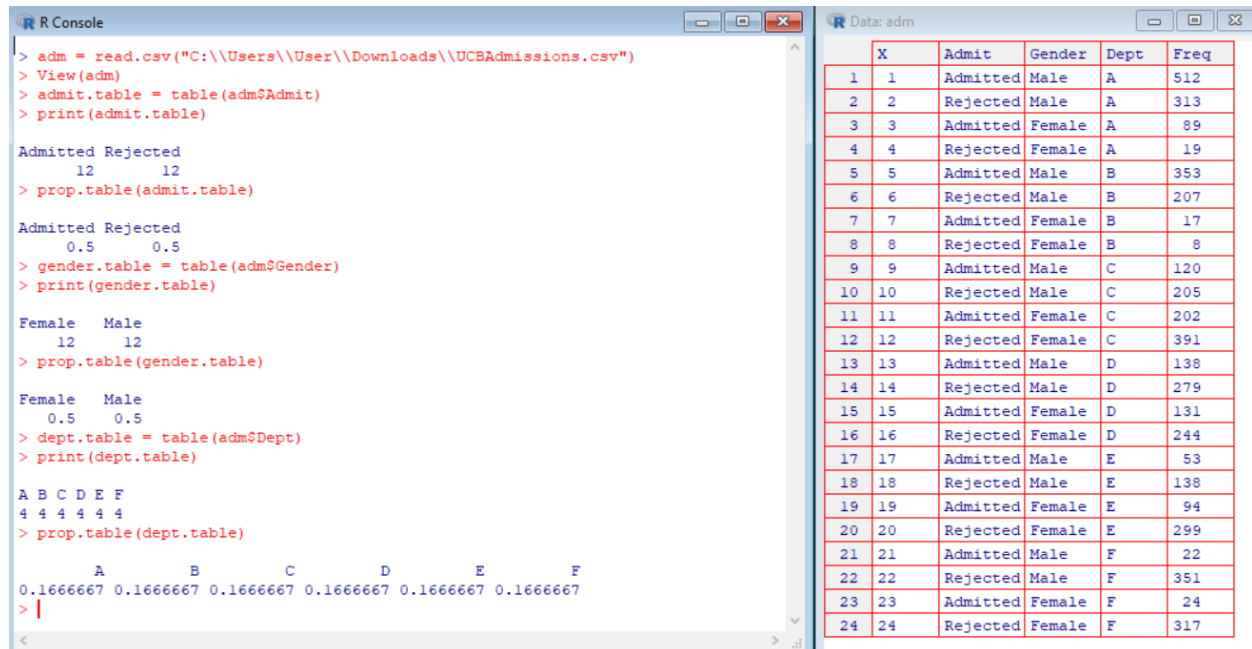
```
4 4 4 4 4 4
```

```
> 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:



The screenshot shows an R console window on the left and an R Data viewer window on the right. The console displays the following R code and its output:

```
> 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
>
```

The Data viewer window shows a table with the following columns: X, Admit, Gender, Dept, and Freq. The data is as follows:

	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