

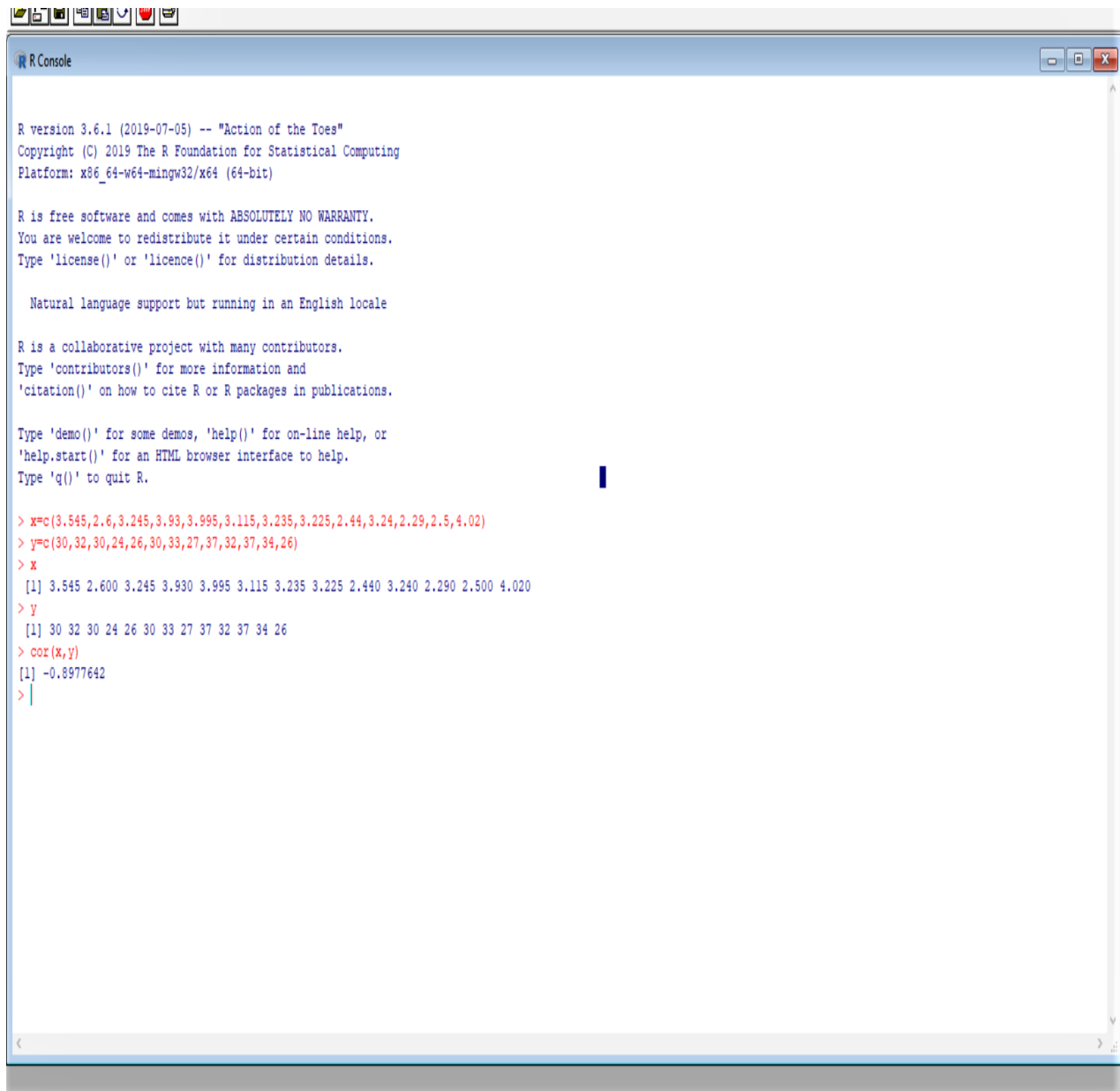
MAT 2001- STATISTICS FOR ENGINEERS**EXPERIMENT-2**

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- **SLOT: - L13+L14**

Question 1: -

The following table gives the weight (x) (in 1000 lbs.) and highway fuel efficiency (y) (in miles/gallon) for a sample of 13 cars.

Vehicle	X	Y
Chevrolet Camaro	3.545	30
Dodge Neon	2.6	32
Honda Accord	3.23	30
Lincoln Continental	3.93	24
Oldsmobile Aurora	3.995	26
Pontiac Grand Am	3.115	30
Mitsubishi Eclipse	3.235	33
BMW 3-Series	3.225	27
Honda Civic	2.44	37
Toyota Camry	3.24	32
Hyundai Accent	2.29	37
Mazda Protégé	2.5	34
Cadillac DeVille	4.02	26



```
R version 3.6.1 (2019-07-05) -- "Action of the Toes"
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Platform: x86_64-w64-mingw32/x64 (64-bit)

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> x=c(3.545,2.6,3.245,3.93,3.995,3.115,3.235,3.225,2.44,3.24,2.29,2.5,4.02)
> y=c(30,32,30,24,26,30,33,27,37,32,37,34,26)
> x
[1] 3.545 2.600 3.245 3.930 3.995 3.115 3.235 3.225 2.440 3.240 2.290 2.500 4.020
> y
[1] 30 32 30 24 26 30 33 27 37 32 37 34 26
> cor(x,y)
[1] -0.8977642
> |
```

Correlation of x, y = -0.8977642

Question 2: -

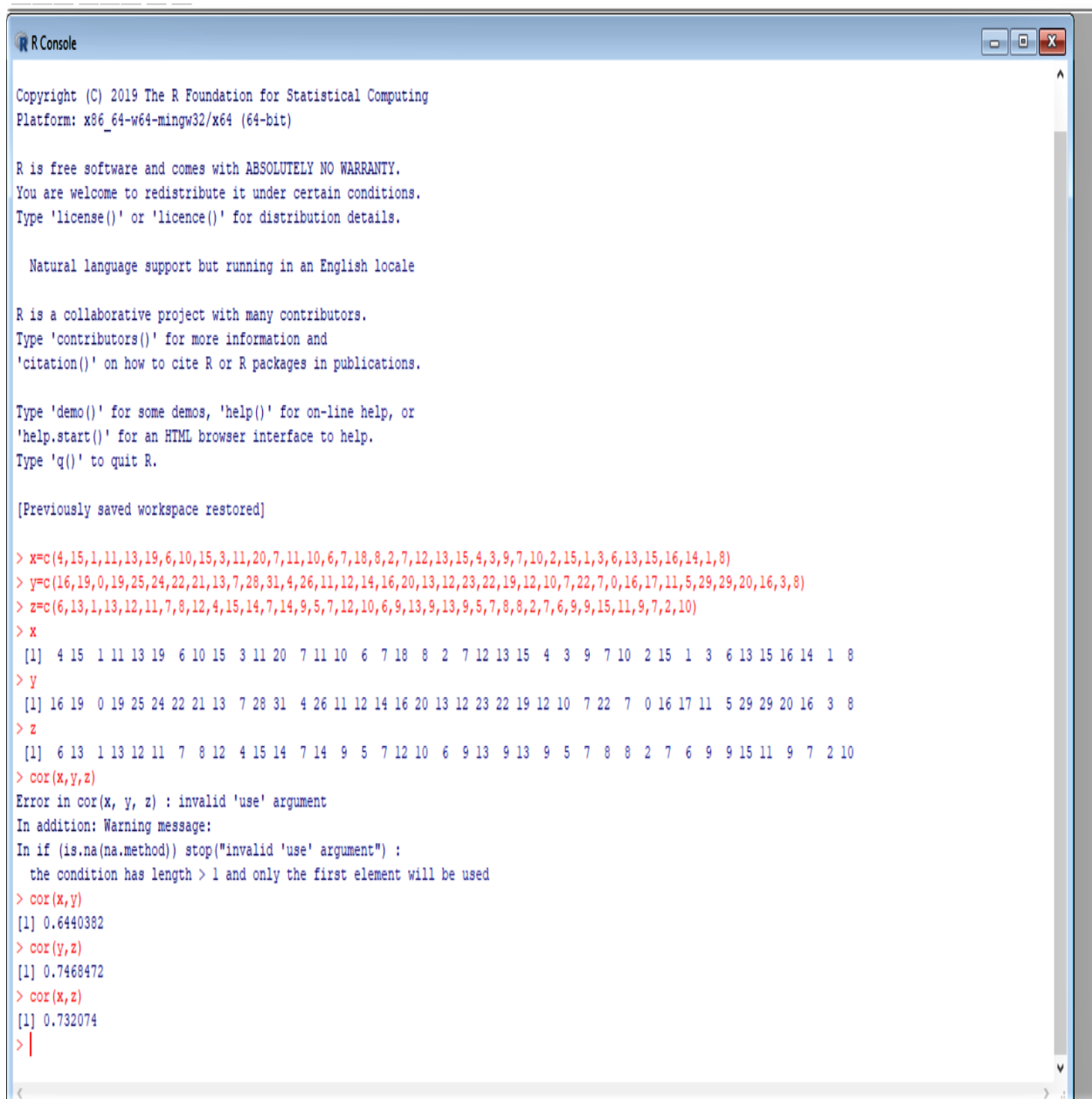
Find the Correlation between X and Y.

Find the Correlation between below data

Sol: -

ENJOY	BUY	READ
4	16	6
15	19	13
1	0	1
11	19	13
13	25	12
19	24	11
6	22	7
10	21	8
15	13	12
3	7	4
11	28	15
20	31	14
7	4	7
11	26	14
10	11	9
6	12	5
7	14	7
18	16	12
8	20	10

2	13	6
7	12	9
12	23	13
13	22	9
15	19	13
4	12	9
3	10	5
9	7	7
7	22	8
10	7	8
2	0	2
15	16	7
1	17	6
3	11	9
6	5	9
13	29	15
15	29	11
16	20	9
14	16	7
1	3	2
8	8	10



```

R Console

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'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

[Previously saved workspace restored]

> x=c(4,15,1,11,13,19,6,10,15,3,11,20,7,11,10,6,7,18,8,2,7,12,13,15,4,3,9,7,10,2,15,1,3,6,13,15,16,14,1,8)
> y=c(16,19,0,19,25,24,22,21,13,7,28,31,4,26,11,12,14,16,20,13,12,23,22,19,12,10,7,22,7,0,16,17,11,5,29,29,20,16,3,8)
> z=c(6,13,1,13,12,11,7,8,12,4,15,14,7,14,9,5,7,12,10,6,9,13,9,13,9,5,7,8,8,2,7,6,9,9,15,11,9,7,2,10)
> x
[1] 4 15 1 11 13 19 6 10 15 3 11 20 7 11 10 6 7 18 8 2 7 12 13 15 4 3 9 7 10 2 15 1 3 6 13 15 16 14 1 8
> y
[1] 16 19 0 19 25 24 22 21 13 7 28 31 4 26 11 12 14 16 20 13 12 23 22 19 12 10 7 22 7 0 16 17 11 5 29 29 20 16 3 8
> z
[1] 6 13 1 13 12 11 7 8 12 4 15 14 7 14 9 5 7 12 10 6 9 13 9 13 9 5 7 8 8 2 7 6 9 9 15 11 9 7 2 10
> cor(x,y,z)
Error in cor(x, y, z) : invalid 'use' argument
In addition: Warning message:
In if (is.na(na.method)) stop("invalid 'use' argument") :
the condition has length > 1 and only the first element will be used
> cor(x,y)
[1] 0.6440382
> cor(y,z)
[1] 0.7468472
> cor(x,z)
[1] 0.732074
> |

```

Cor (x,y) =0.6440382

Cor (y,z) = 0.7468472

Cor (x,z) = 0.732074

-----THANK YOU-----