

## EXPORT DATA

Consider the data set “airquality”.

Read first 6 lines into a new data frame “aq” (`aq <- head(airquality)`)

**Q1) Write a command to export (store/save) data into the file cat\_test1.txt (Use only two arguments). After creating file check the output.**

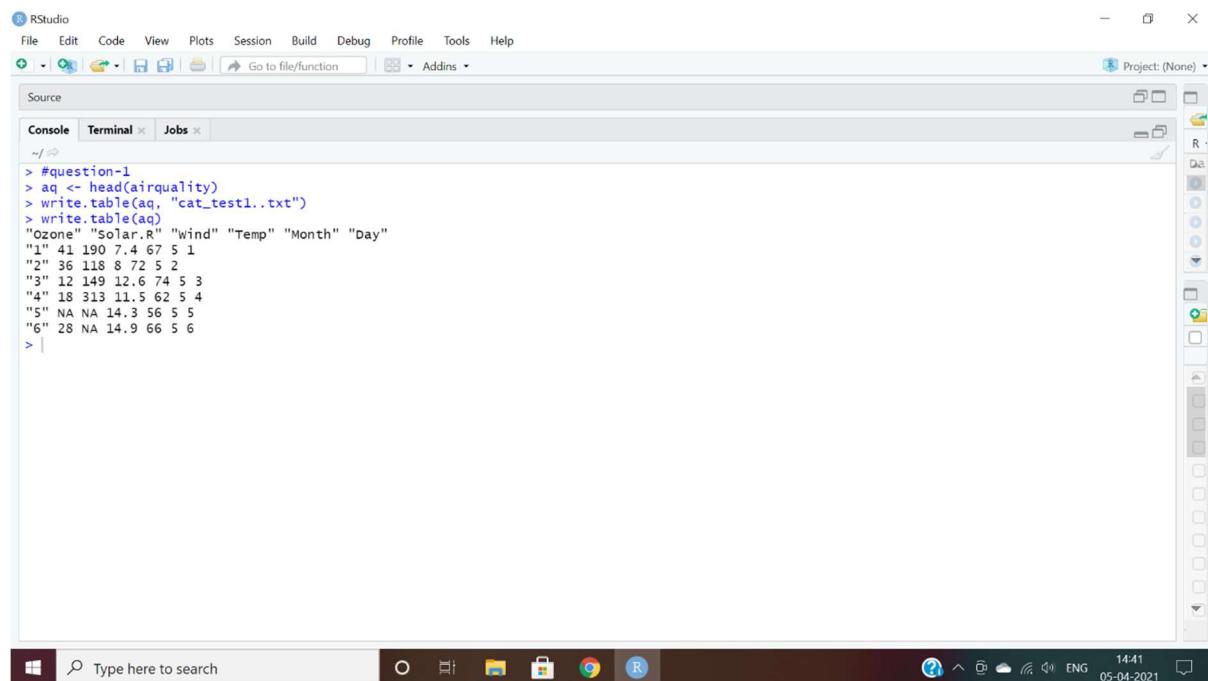
**Answers:**

`aq <- head(airquality)`

`write.table(aq, "cat_test1..txt")`

`write.table(aq)`

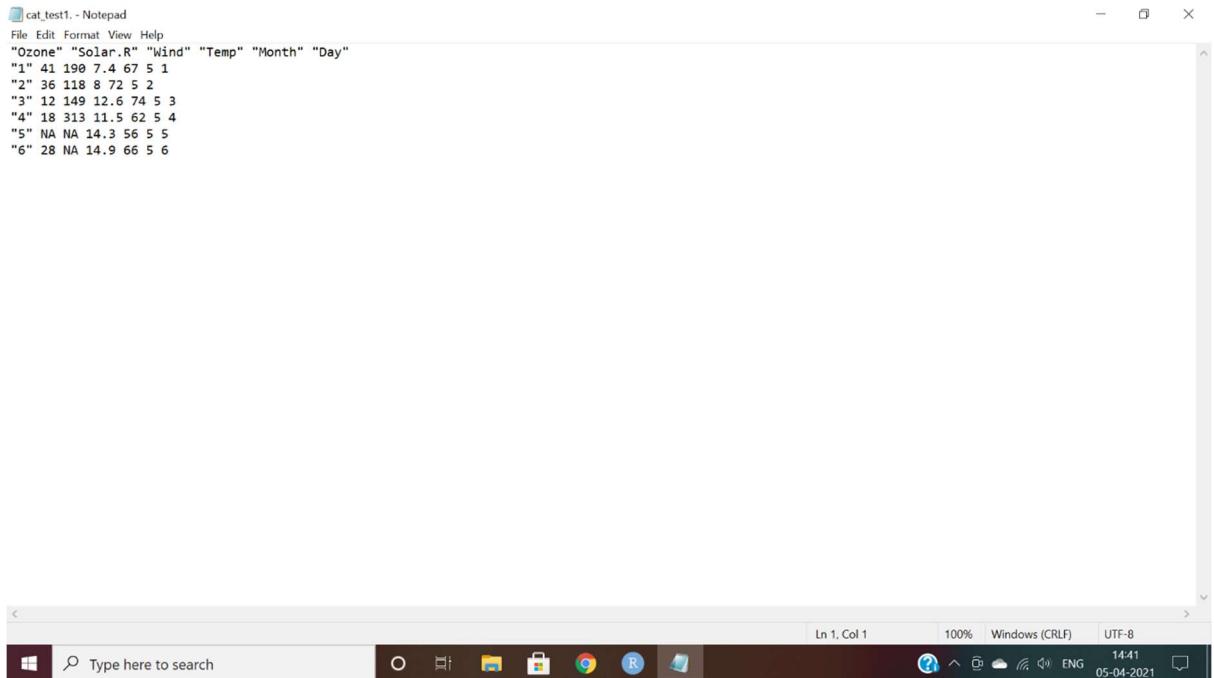
## OUTPUT



The screenshot shows the RStudio interface with the console tab selected. The console window displays the following R code and its execution results:

```
> #question-1
> aq <- head(airquality)
> write.table(aq, "cat_test1..txt")
> write.table(aq)
"ozone" "Solar.R" "wind" "Temp" "Month" "Day"
"1" 41 190 7.4 67 5 1
"2" 36 118 8 72 5 2
"3" 12 149 12.6 74 5 3
"4" 18 313 11.5 62 5 4
"5" NA NA 14.3 56 5 5
"6" 28 NA 14.9 66 5 6
> |
```

The operating system taskbar at the bottom shows the date as 05-04-2021 and the time as 14:41.



The screenshot shows a Windows Notepad window titled "cat\_test1 - Notepad". The file contains the following text:

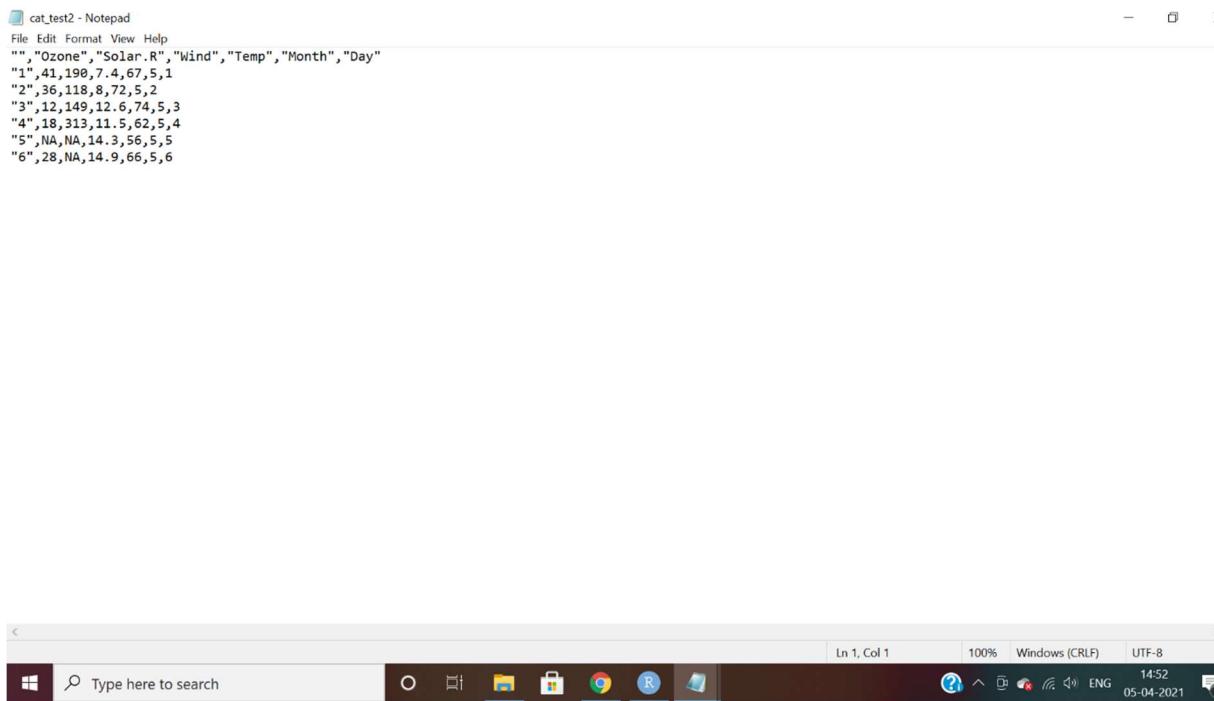
```
File Edit Format View Help
"Ozone" "Solar.R" "Wind" "Temp" "Month" "Day"
"1" 41 190 7.4 67 5 1
"2" 36 118 8 72 5 2
"3" 12 149 12.6 74 5 3
"4" 18 313 11.5 62 5 4
"5" NA NA 14.3 56 5 5
"6" 28 NA 14.9 66 5 6
```

**Q2) Write a command to export data into the file cat\_test2.txt. Use separator as comma**

**Answer:**

```
aq <- head(airquality)
write.table(aq, file = " cat_test2.txt", sep = ",",
            row.names = TRUE, col.names = NA)
```

### **OUTPUT**



The screenshot shows a Windows Notepad window titled "cat\_test2 - Notepad". The file contains the following text:

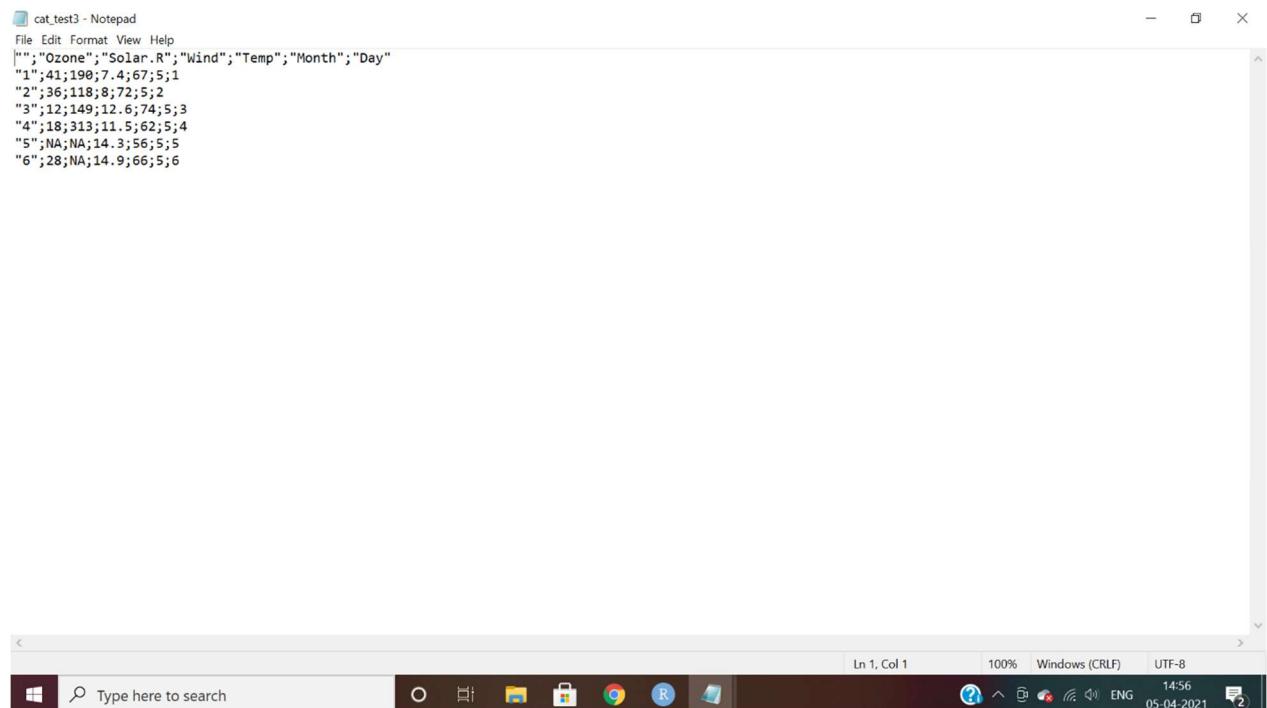
```
File Edit Format View Help
"Ozone","Solar.R","Wind","Temp","Month","Day"
"1",41,190,7.4,67,5,1
"2",36,118,8,72,5,2
"3",12,149,12.6,74,5,3
"4",18,313,11.5,62,5,4
"5",NA,NA,14.3,56,5,5
"6",28,NA,14.9,66,5,6
```

**Q3) Write a command to export data into the file cat\_test3.txt. Use separator as semi-colon.**

**Answer:**

```
aq <- head(airquality)
write.table(aq, file = "cat_test3.txt", sep = ";",
row.names = TRUE, col.names = NA)
```

### **OUTPUT**



```
cat_test3 - Notepad
File Edit Format View Help
";"Ozone";"Solar.R";"Wind";"Temp";"Month";"Day"
"1";41;190;7.4;67;5;1
"2";36;118;8;72;5;2
"3";12;149;12.6;74;5;3
"4";18;313;11.5;62;5;4
"5";NA;NA;14.3;56;5;5
"6";28;NA;14.9;66;5;6
```

**Q4) Write a command to export data into the file cat\_test4.txt. Use separator as tab (use \t to insert tab)**

**Answer:**

```
aq <- head(airquality)
write.table(aq, file = "cat_test4.txt", sep = "\t",
row.names = TRUE, col.names = NA)
```

### **OUTPUT**

**Q5) Write a command to export the same data into the file cat\_test1.csv. After creating file check the output.**

**Answer:**

```
aq <- head(airquality)
```

```
write.csv(aq, file = "cat test1.csv")
```

## OUTPUT

**Q6) Write a command to export the same data into the file cat\_test2.csv. Use separator as comma.**

**Answer:**

```
aq <- head(airquality)  
write.table(aq, file = "cat_test2.csv", sep = ",")
```

### **OUTPUT**

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Ozone	Solar.R	Wind	Temp	Month	Day												
2	1	41	190	7.4	67	5	1											
3	2	36	118	8	72	5	2											
4	3	12	149	12.6	74	5	3											
5	4	18	313	11.5	62	5	4											
6	5	NA	NA	14.3	56	5	5											
7	6	28	NA	14.9	66	5	6											
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		

**Q7) Write a command to export the same data into the file cat\_test3.csv. Use separator as semi colon.**

**Answer:**

```
aq <- head(airquality)  
write.table(aq, file = "cat_test3.csv", sep = ";")
```

### **OUTPUT**

cat_test3 - Excel																
File	Home	Insert	Page Layout	Formulas	Data	Review	View	Help	Tell me what you want to do	amian nayak AN	Share					
<b>POSSIBLE DATA LOSS</b> Some features might be lost if you save this workbook in the comma-delimited (.csv) format. To preserve these features, save it in an Excel file format.																
A1																
1	Ozone;"Solar.R";"Wind";"Temp";"Month";"Day"															
2	1;41;190;7.4;67;5;1															
3	2;36;118;8;72;5;2															
4	3;12;149;12;6;74;5;3															
5	4;18;313;11;5;62;5;4															
6	5;NA;NA;14;3;56;5;5															
7	6;28;NA;14;9;66;5;6															
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																
cat test3																
Type here to search																

**Q8) Write a command to export the data using various separators such as semi-colon and tab and store them in new .xlsx files. Open newly created files using both excel and notepad. Observe the difference.**

**Answer:**

i) `aq <- head(airquality)`

`write.xlsx2(aq, "cat_test6.xlsx",sep=";")`

ii) `aq <- head(airquality)`

`write.xlsx2(aq, "cat_test6.xlsx",sep="\t")`

**OUTPUT**

```
cat_test4 - Notepad
File Edit Format View Help
"Ozone";"Solar.R";"Wind";"Temp";"Month";"Day"
"1";41;190;7.4;67;5;1
"2";36;118;8;72;5;2
"3";12;149;12.6;74;5;3
"4";18;313;11.5;62;5;4
"5";NA;NA;14.3;56;5;5
"6";28;NA;14.9;66;5;6
```

Ln 1, Col 1 | 100% | Unix (LF) | ANSI | 16:21 | ENG | 05-04-2021 |

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Ozone	Solar.R	Wind	Temp	Month	Day													
2	1	41	190	7.4	67	5	1												
3	2	36	118	8	72	5	2												
4	3	12	149	12.6	74	5	3												
5	4	18	313	11.5	62	5	4												
6	5	#N/A	#N/A	14.3	56	5	5												
7	6	28	#N/A	14.9	66	5	6												
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Ozone	Solar.R	Wind	Temp	Month	Day													
2	1	41	190	7.4	67	5	1												
3	2	36	118	8	72	5	2												
4	3	12	149	12.6	74	5	3												
5	4	18	313	11.5	62	5	4												
6	5			14.3	56	5	5												
7	6			28	14.9	66	5	6											
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			

### write.table command:

Q) Load mtcars dataset by data("mtcars") then use write.table command. Here, file extension is .txt as write.table stores data into text files.

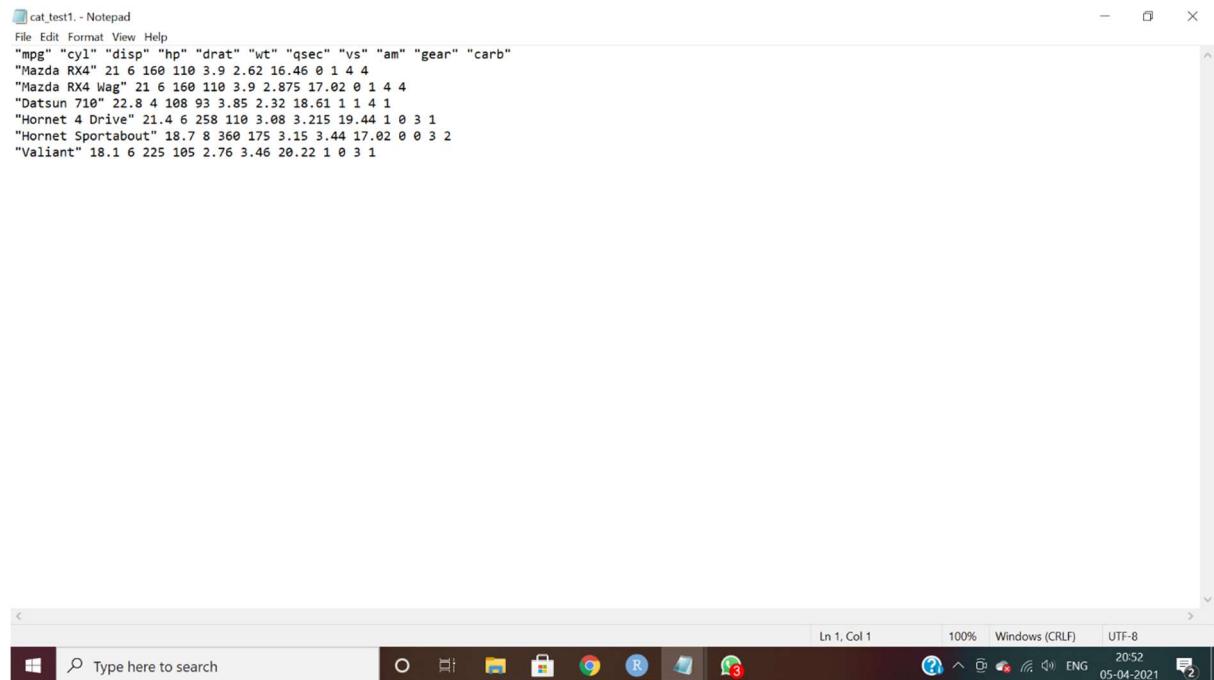
Answer:

```
aq <- head(mtcars)
```

```
write.table(aq, "cat_test1.txt")
```

```
write.table(aq)
```

## OUTPUT



```
cat_test1 - Notepad
File Edit Format View Help
"mpg" "cyl" "disp" "hp" "drat" "wt" "qsec" "vs" "am" "gear" "carb"
"Mazda RX4" 21 6 160 110 3.9 2.62 16.46 0 1 4 4
"Mazda RX4 Wag" 21 6 160 110 3.9 2.875 17.02 0 1 4 4
"Datsun 710" 22.8 4 108 93 3.85 2.32 18.61 1 1 4 1
"Hornet 4 Drive" 21.4 6 258 110 3.08 3.215 19.44 1 0 3 1
"Hornet Sportabout" 18.7 8 360 175 3.15 3.44 17.02 0 0 3 2
"Valiant" 18.1 6 225 105 2.76 3.46 20.22 1 0 3 1
```

**write.csv command:**

**Q) Repeat the above exercises using write.csv command. Here, file extension is .csv as write.csv stores data into comma separated files.**

**Answer:**

```
aq <- head(mtcars)
write.table(aq, file = "cat_test2.csv", sep = ",")
```

## OUTPUT

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb								
2	Mazda RX4	21	6	160	110	3.9	2.62	16.46	0	1	4								
3	Mazda RX4	21	6	160	110	3.9	2.875	17.02	0	1	4								
4	Datsun 710	22.8	4	108	93	3.85	2.32	18.61	1	1	4								
5	Hornet 4 Cyl	21.4	6	258	110	3.08	3.215	19.44	1	0	3								
6	Hornet Sportabout	18.7	8	360	175	3.15	3.44	17.02	0	0	3								
7	Valiant	18.1	6	225	105	2.76	3.46	20.22	1	0	3								
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			

### read.table command:

Q1) Write a command to read the data from cat\_test1.txt. Display the output.

Answer:

```
read.table("cat_test1.txt")
```

### OUTPUT

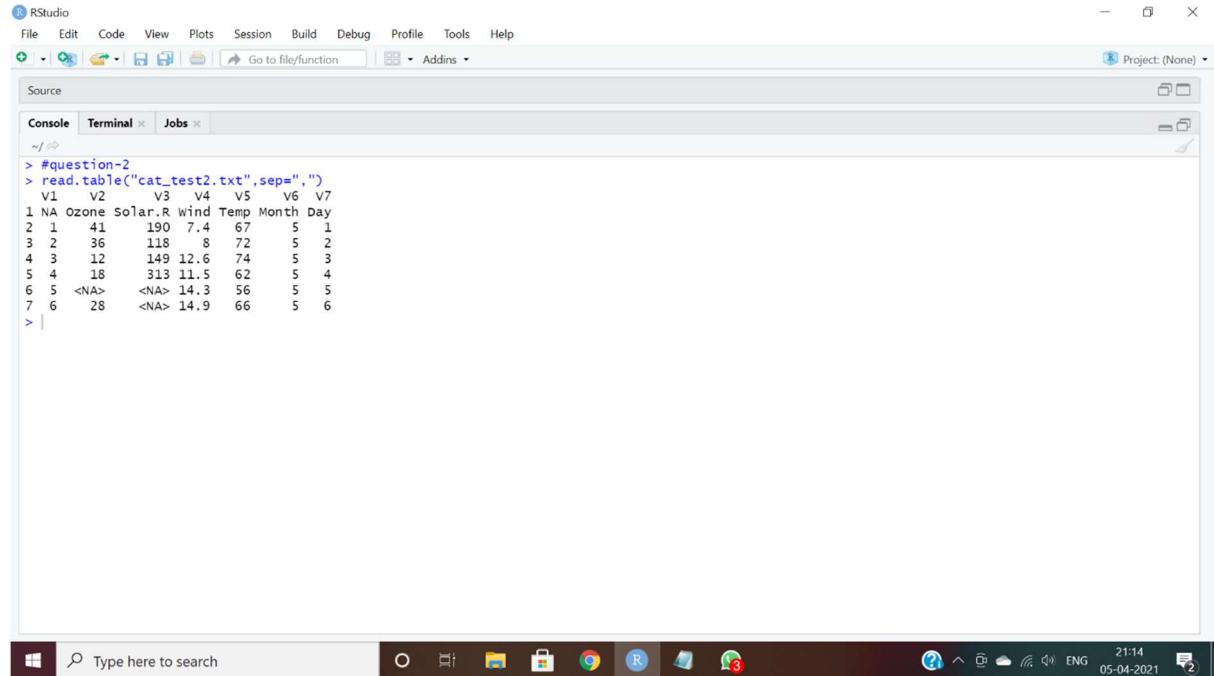
```
> read.table("cat_test1.txt")
  Ozone Solar.R Wind Temp Month Day
1    41     190   7.4   67      5    1
2    36     118   8.0   72      5    2
3    12     149  12.6   74      5    3
4    18     313  11.5   62      5    4
5    NA     NA  14.3   56      5    5
6    28     NA  14.9   66      5    6
>
```

**Q2) Write a command to read the data from cat\_test2.txt. Display the output. Modify your command to get the output as given below.**

**Answer:**

```
read.table("cat_test2.txt",sep=",")
```

### **OUTPUT**



```
> #question-2
> read.table("cat_test2.txt",sep=",")
V1   V2    V3   V4   V5   V6   V7
1 NA Ozone Solar.R Wind Temp Month Day
2 1   41    190  7.4  67   5    1
3 2   36    118   8    72   5    2
4 3   12    149 12.6  74   5    3
5 4   18    313 11.5  62   5    4
6 5 <NA>  <NA> 14.3  56   5    5
7 6   28    <NA> 14.9  66   5    6
```

**Q3) • Write a command to read the data from remaining files and display the output as in the above figure.**

**Answer:**

```
read.table("cat_test4..txt",sep=";")
read.table("cat_test4..txt",sep="\t")
```

### **OUTPUT**

RStudio  
File Edit Code View Plots Session Build Debug Profile Tools Help  
Go to file/function Addins Project: (None)  
Source  
Console Terminal Jobs  
~/  
> #question-2  
> read.table("cat\_test3.txt",sep=";")  
V1 V2 V3 V4 V5 V6 V7  
1 NA Ozone Solar.R Wind Temp Month Day  
2 1 41 190 7.4 67 5 1  
3 2 36 118 8 72 5 2  
4 3 12 149 12.6 74 5 3  
5 4 18 313 11.5 62 5 4  
6 5 <NA> <NA> 14.3 56 5 5  
7 6 28 <NA> 14.9 66 5 6  
> |

RStudio  
File Edit Code View Plots Session Build Debug Profile Tools Help  
Go to file/function Addins Project: (None)  
Source  
Console Terminal Jobs  
~/  
> #question-2  
> read.table("cat\_test4..txt",sep="\t")  
V1 V2 V3 V4 V5 V6 V7  
1 NA Ozone Solar.R Wind Temp Month Day  
2 1 41 190 7.4 67 5 1  
3 2 36 118 8 72 5 2  
4 3 12 149 12.6 74 5 3  
5 4 18 313 11.5 62 5 4  
6 5 <NA> <NA> 14.3 56 5 5  
7 6 28 <NA> 14.9 66 5 6  
> |

**Q4) Write a command to read and display the data without quotes on strings.**

**Answer:**

```
read.table("cat_test1.txt")
```

**OUTPUT**

The screenshot shows the RStudio interface with the console tab selected. The code entered is:

```
> #question-4
> read.table("cat_test1.txt")
Ozone Solar.R Wind Temp Month Day
1 41 190 7.4 67 5 1
2 36 118 8.0 72 5 2
3 12 149 12.6 74 5 3
4 18 313 11.5 62 5 4
5 NA NA 14.3 56 5 5
6 28 NA 14.9 66 5 6
```

**Q5) Write a command to read the data without column names.**

**Answer:**

```
dat <- data.matrix(read.table("cat_test1.txt", header = TRUE, row.names = 1,
                             sep = ","))
```

**dat**

### **OUTPUT**

The screenshot shows the RStudio interface with the console tab selected. The code entered is:

```
> #question-4
> dat <- data.matrix(read.table("cat_test1.txt", header = TRUE, row.names = 1,
+                               sep = ","))
```

The output shows the data frame:

```
1 41 190 7.4 67 5 1
2 36 118 8 72 5 2
3 12 149 12.6 74 5 3
4 18 313 11.5 62 5 4
5 NA NA 14.3 56 5 5
6 28 NA 14.9 66 5 6
```

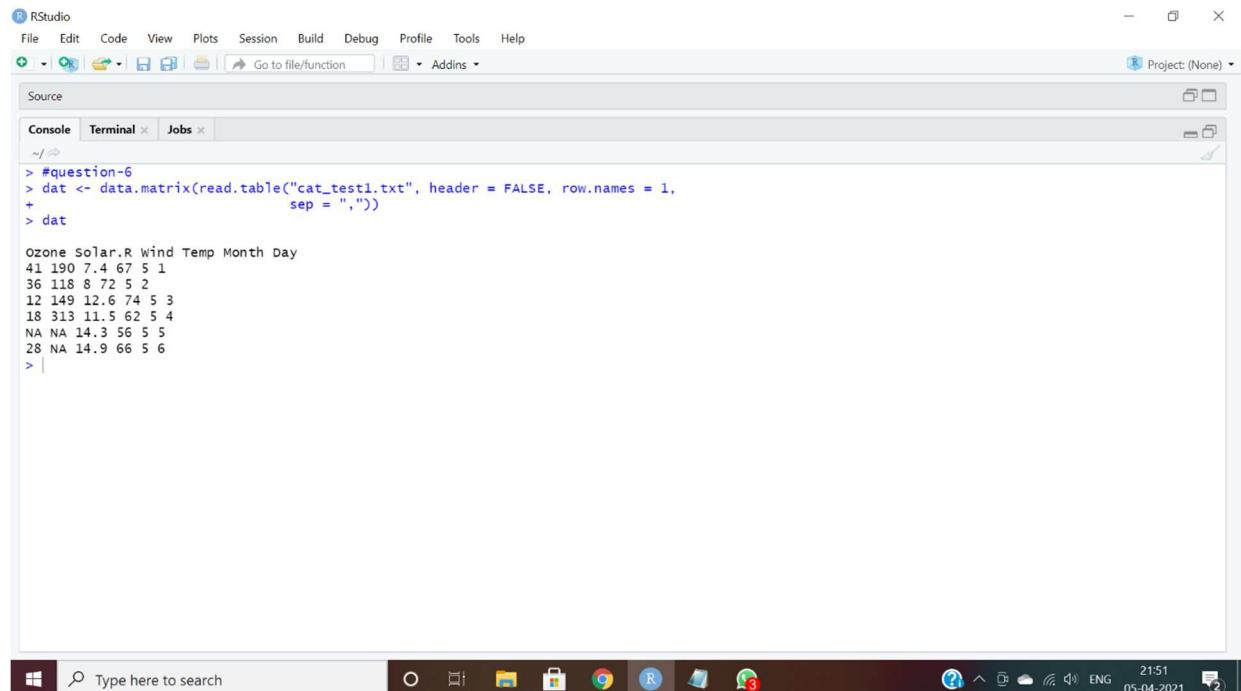
**Q6) Write a command to read the data without row names.**

**Answer:**

```
dat <- data.matrix(read.table("cat_test1.txt", header = FALSE, row.names = 1,  
                             sep = ","))
```

**dat**

## **OUTPUT**



```
RStudio  
File Edit Code View Plots Session Build Debug Profile Tools Help  
Go to file/function Addins ▾  
Project: (None)  
Source  
Console Terminal Jobs  
> #question-6  
> dat <- data.matrix(read.table("cat_test1.txt", header = FALSE, row.names = 1,  
+                                sep = ","))  
> dat  
Ozone Solar.R Wind Temp Month Day  
41 190 7.4 67 5 1  
36 118 8 72 5 2  
12 149 12.6 74 5 3  
18 313 11.5 62 5 4  
NA NA 14.3 56 5 5  
28 NA 14.9 66 5 6  
> |
```

**Read.csv command:**

**Repeat the above exercises using read.csv command:**

**Answer:**

```
1)read.csv("cat_test1.csv")
```

## **OUTPUT**

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
+ - Go to file/function Addins Project: (None)
Source
Console Terminal Jobs
~/f
> read.csv("cat_test1.csv")
  X Ozone Solar.R Wind Temp Month Day
1 1  41    190 7.4   67    5   1
2 2  36    118 8.0   72    5   2
3 3  12    149 12.6  74    5   3
4 4  18    313 11.5  62    5   4
5 5  NA    NA 14.3  56    5   5
6 6  28    NA 14.9  66    5   6
> |
```

2)read.csv("cat\_test2.csv")

### OUTPUT

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
+ - Go to file/function Addins Project: (None)
Source
Console Terminal Jobs
~/f
> read.csv("cat_test2.csv")
  X Ozone Solar.R Wind Temp Month Day
1 1  41    190 7.4   67    5   1
2 2  36    118 8.0   72    5   2
3 3  12    149 12.6  74    5   3
4 4  18    313 11.5  62    5   4
5 5  NA    NA 14.3  56    5   5
6 6  28    NA 14.9  66    5   6
> |
```

3)read.csv2("cat\_test3.csv")

### OUTPUT

The screenshot shows the RStudio interface with the 'Console' tab selected. The code `read.csv2("cat\_test3.csv")` is run, and the resulting data frame is displayed:

	Ozone	Solar.R	Wind	Temp	Month	Day
1	41	190	7.4	67	5	1
2	36	118	8	72	5	2
3	12	149	12.6	74	5	3
4	18	313	11.5	62	5	4
5	NA	NA	14.3	56	5	5
6	28	NA	14.9	66	5	6

## Export Data (USArrests) From R to .txt|.csv|.xlsx files.

### Q1) Writing data from R to a txt|csv file: R base functions.

**Answer:**

```
data("USArrests")
```

```
# Write data to txt file: tab separated values
```

```
# sep = "\t"
```

```
write.table(USArrests, file = "USArrests.txt", sep = "\t",
```

```
  row.names = TRUE, col.names = NA)
```

```
# Write data to csv files:
```

```
# decimal point = "." and value separators = comma (",")
```

```
write.csv(USArrests, file = "USArrests.csv")
```

```
# Write data to csv files:
```

```
# decimal point = comma (",") and value separators = semicolon (";")
```

```
write.csv2(USArrests, file = "USArrests.csv")
```

## OUTPUT

USArrests - Notepad

	"Murder"	"Assault"	"UrbanPop"	"Rape"
"Alabama"	13.2	236	58	21.2
"Alaska"	10	263	48	44.5
"Arizona"	8.1	294	80	31
"Arkansas"	8.8	190	50	19.5
"California"	9	276	91	40.6
"Colorado"	7.9	204	78	38.7
"Connecticut"	3.3	110	77	11.1
"Delaware"	5.9	238	72	15.8
"Florida"	15.4	335	80	31.9
"Georgia"	17.4	211	60	25.8
"Hawaii"	5.3	46	83	20.2
"Idaho" 2.6	120	54	14.2	
"Illinois"	10.4	249	83	24
"Indiana"	7.2	113	65	21
"Iowa" 2.2	56	57	11.3	
"Kansas"	6	115	66	18
"Kentucky"	9.7	109	52	16.3
"Louisiana"	15.4	249	66	22.2
"Maine" 2.1	83	51	7.8	
"Maryland"	11.3	300	67	27.8
"Massachusetts"	4.4	149	85	16.3
"Michigan"	12.1	255	74	35.1
"Minnesota"	2.7	72	66	14.9
"Mississippi"	16.1	259	44	17.1
"Missouri"	9	178	70	28.2
"Montana"	6	109	53	16.4
"Nebraska"	4.3	102	62	16.5
"Nevada"	12.2	252	81	46
"New Hampshire"	2.1	57	56	9.5
"New Jersey"	7.4	159	89	18.8
"New Mexico"	11.4	285	70	32.1
"New York"	11.1	254	86	26.1
"North Carolina"	13	337	45	16.1

Ln 1, Col 1 100% Windows (CRLF) UTF-8  
22:05 05-04-2021

USArrests - Excel

	Murder	Assault	UrbanPop	Rape
2 Alabama	13.2	236	58	21.2
3 Alaska	10	263	48	44.5
4 Arizona	8.1	294	80	31
5 Arkansas	8.8	190	50	19.5
6 California	9	276	91	40.6
7 Colorado	7.9	204	78	38.7
8 Connecticut	3.3	110	77	11.1
9 Delaware	5.9	238	72	15.8
10 Florida	15.4	335	80	31.9
11 Georgia	17.4	211	60	25.8
12 Hawaii	5.3	46	83	20.2
13 Idaho	2.6	120	54	14.2
14 Illinois	10.4	249	83	24
15 Indiana	7.2	113	65	21
16 Iowa	2.2	56	57	11.3
17 Kansas	6	115	66	18
18 Kentucky	9.7	109	52	16.3
19 Louisiana	15.4	249	66	22.2
20 Maine	2.1	83	51	7.8

POSSIBLE DATA LOSS Some features might be lost if you save this workbook in the comma-delimited (.csv) format. To preserve these features, save it in an Excel file format. Don't show again Save As...  
22:05 05-04-2021

A	B	C	D	E	F	G	H	I	J	K	L
1 ;"Murder";"Assault";"UrbanPop";"Rape"											
2 Alabama;13	2;236;58;21		2								
3 Alaska;10;263;48;44		5									
4 Arizona;8	1;294;80;31										
5 Arkansas;8	8;190;50;19		5								
6 California;9;276;91;40		6									
7 Colorado;7	9;204;78;38		7								
8 Connecticut;3	3;110;77;11		1								
9 Delaware;5	9;238;72;15		8								
10 Florida;15	4;335;80;31		9								
11 Georgia;17	4;211;60;25		8								
12 Hawaii;5	3;46;83;20		2								
13 Idaho;2	6;120;54;14		2								
14 Illinois;10	4;249;83;24										
15 Indiana;7	2;113;65;21										
16 Iowa;2	2;56;57;11		3								
17 Kansas;6;115;66;18											
18 Kentucky;9	7;109;52;16		3								
19 Louisiana;15	4;249;66;22		2								
20 Maine;2	1;83;51;7		8								

## Q2) Fast Writing of Data From R to txt|csv Files: readr package.

**Answer:**

```
# Loading USArrests data
data("USArrests")
library("readr")

# Writing USArrests data to a tsv file
write_tsv(USArrests, path = "USArrests.txt")

# Writing USArrests data to a csv file
write_csv(USArrests, path = "USArrests.csv")
```

## OUTPUT

The screenshot shows the USAArrests dataset in Notepad. The columns are labeled Murder, Assault, UrbanPop, and Rape. The data consists of 20 rows of numerical values.

	Murder	Assault	UrbanPop	Rape
2	13.2	236	58	21.2
3	10	263	48	44.5
4	8.1	294	80	31
5	8.8	190	50	19.5
6	9	276	91	40.6
7	7.9	204	78	38.7
8	3.3	110	77	11.1
9	5.9	238	72	15.8
10	15.4	335	80	31.9
11	17.4	211	60	25.8
12	5.3	46	83	20.2
13	2.6	120	54	14.2
14	10.4	249	83	24
15	7.2	113	65	21
16	2.2	56	57	11.3
17	6	115	66	18
18	9.7	109	52	16.3
19	15.4	249	66	22.2
20	2.1	83	51	7.8

The screenshot shows the USAArrests dataset in Excel. The columns are labeled Murder, Assault, UrbanPop, and Rape. The data consists of 20 rows of numerical values. The Excel ribbon is visible at the top, and the status bar at the bottom indicates the file is saved as 'USAArrests - Excel'.

	Murder	Assault	UrbanPop	Rape
2	13.2	236	58	21.2
3	10	263	48	44.5
4	8.1	294	80	31
5	8.8	190	50	19.5
6	9	276	91	40.6
7	7.9	204	78	38.7
8	3.3	110	77	11.1
9	5.9	238	72	15.8
10	15.4	335	80	31.9
11	17.4	211	60	25.8
12	5.3	46	83	20.2
13	2.6	120	54	14.2
14	10.4	249	83	24
15	7.2	113	65	21
16	2.2	56	57	11.3
17	6	115	66	18
18	9.7	109	52	16.3
19	15.4	249	66	22.2
20	2.1	83	51	7.8

### Q3) Writing data from R to Excel files (xls|xlsx)

**Answer:**

```
library("xlsx")
```

# Write the first data set in a new workbook

```
write.xlsx(USArrests, file = "myworkbook.xlsx",
```

```
sheetName = "USA-ARRESTS", append = FALSE)
```

## OUTPUT

The screenshot shows a Microsoft Excel spreadsheet titled "myworkbook - Excel". The table has four columns: Murder, Assault, UrbanPop, and Rape. The data includes 50 rows of US state information. The table is styled with a light blue header row and white body rows. The "USA-ARRESTS" tab is selected at the bottom.

	Murder	Assault	UrbanPop	Rape
2	Alabama	13.2	236	58
3	Alaska	10	263	48
4	Arizona	8.1	294	80
5	Arkansas	8.8	190	50
6	California	9	276	91
7	Colorado	7.9	204	78
8	Connecticut	3.3	110	77
9	Delaware	5.9	238	72
10	Florida	15.4	335	80
11	Georgia	17.4	211	60
12	Hawaii	5.3	46	83
13	Idaho	2.6	120	54
14	Illinois	10.4	249	83
15	Indiana	7.2	113	65
16	Iowa	2.2	56	57
17	Kansas	6	115	66
18	Kentucky	9.7	109	52
19	Louisiana	15.4	249	66
20	Maine	2.1	83	51
21	Maryland	11.3	300	67
22	Massachusetts	1.1	140	95
				16.2

## Q4) Saving data into R data format: RDATA and RDS

Answer:

```
# Save a single object to a file
```

```
saveRDS(USArrests, "USArrests.rds")
```

```
# Restore it under a different name
```

```
my_data <- readRDS("USArrests.rds")
```

```
my_data
```

## OUTPUT

The screenshot shows the USAArrests dataset in Microsoft Excel. The data is organized into four columns: Murder, Assault, UrbanPop, and Rape. The rows represent different US states, with data points ranging from Alaska (Murder: 10.0, Assault: 263, UrbanPop: 48, Rape: 44.5) to Rhode Island (Murder: 2.1, Assault: 83, UrbanPop: 51, Rape: 7.8). The Excel interface includes a ribbon with tabs like File, Home, Insert, Page Layout, Formulas, Data, Review, View, Help, and a search bar at the top.

	Murder	Assault	UrbanPop	Rape
1	Murder	Assault	UrbanPop	Rape
2	13.2	236	58	21.2
3	10.0	263	48	44.5
4	8.1	294	80	31
5	8.8	190	50	19.5
6	9	276	91	40.6
7	7.9	204	78	38.7
8	3.3	110	77	11.1
9	5.9	238	72	15.8
10	15.4	335	80	31.9
11	17.4	211	60	25.8
12	5.3	46	83	20.2
13	2.6	120	54	14.2
14	10.4	249	83	24
15	7.2	113	65	21
16	2.2	56	57	11.3
17	6	115	66	18
18	9.7	109	52	16.3
19	15.4	249	66	22.2
20	2.1	83	51	7.8

The screenshot shows the USAArrests dataset in RStudio's terminal window. The data is presented as a table with columns: Murder, Assault, UrbanPop, and Rape. The rows represent different US states, with data points ranging from Alaska (Murder: 10.0, Assault: 263, UrbanPop: 48, Rape: 44.5) to Rhode Island (Murder: 2.1, Assault: 83, UrbanPop: 51, Rape: 7.8). The RStudio interface includes a menu bar with File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, and Help, and a search bar at the bottom.

	Murder	Assault	UrbanPop	Rape
1	Murder	Assault	UrbanPop	Rape
2	13.2	236	58	21.2
3	10.0	263	48	44.5
4	8.1	294	80	31.0
5	8.8	190	50	19.5
6	9.0	276	91	40.6
7	7.9	204	78	38.7
8	3.3	110	77	11.1
9	5.9	238	72	15.8
10	15.4	335	80	31.9
11	17.4	211	60	25.8
12	5.3	46	83	20.2
13	2.6	120	54	14.2
14	10.4	249	83	24
15	7.2	113	65	21.0
16	2.2	56	57	11.3
17	6	115	66	18.0
18	9.7	109	52	16.3
19	15.4	249	66	22.2
20	2.1	83	51	7.8

# Saving an object in RData format

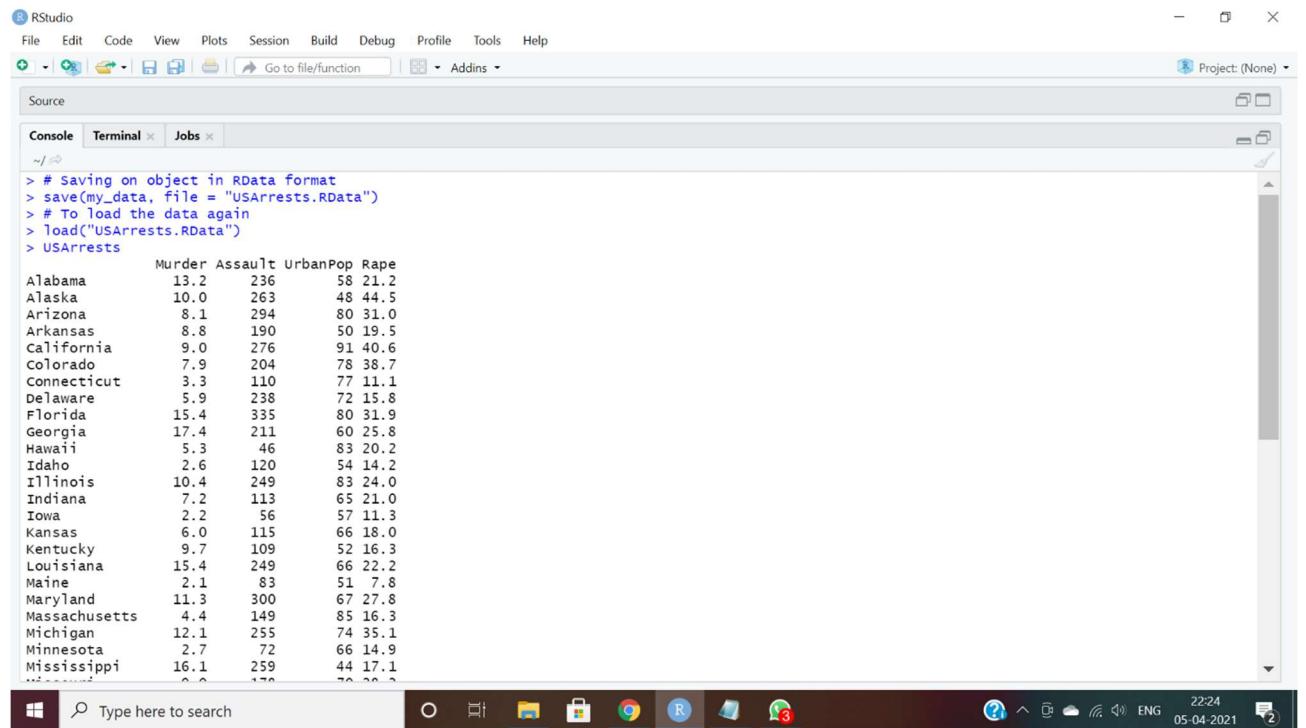
```
save(my_data, file = "USArrests.RData")
```

# To load the data again

```
load("USArrests.RData")
```

**USArrests**

## OUTPUT



The screenshot shows the RStudio interface with the 'Console' tab selected. The console window displays R code and its output. The code saves a dataset to a file and then loads it again to print its contents. The output is a data frame named 'USArrests' containing four columns: Murder, Assault, UrbanPop, and Rape, with data for 50 US states.

```
> # Saving on object in RData format
> save(my_data, file = "USArrests.RData")
> # To load the data again
> load("USArrests.RData")
> USArrests
   Murder Assault UrbanPop Rape
Alabama    13.2     236      58 21.2
Alaska     10.0     263      48 44.5
Arizona     8.1     294      80 31.0
Arkansas    8.8     190      50 19.5
California  9.0     276      91 40.6
Colorado    7.9     204      78 38.7
Connecticut 3.3     110      77 11.1
Delaware    5.9     238      72 15.8
Florida    15.4     335      80 31.9
Georgia    17.4     211      60 25.8
Hawaii      5.3      46      83 20.2
Idaho       2.6     120      54 14.2
Illinois    10.4     249      83 24.0
Indiana     7.2     113      65 21.0
Iowa        2.2      56      57 11.3
Kansas      6.0     115      66 18.0
Kentucky     9.7     109      52 16.3
Louisiana   15.4     249      66 22.2
Maine       2.1      83      51  7.8
Maryland    11.3     300      67 27.8
Massachusetts 4.4     149      85 16.3
Michigan    12.1     255      74 35.1
Minnesota   2.7      72      66 14.9
Mississippi 16.1     259      44 17.1
```