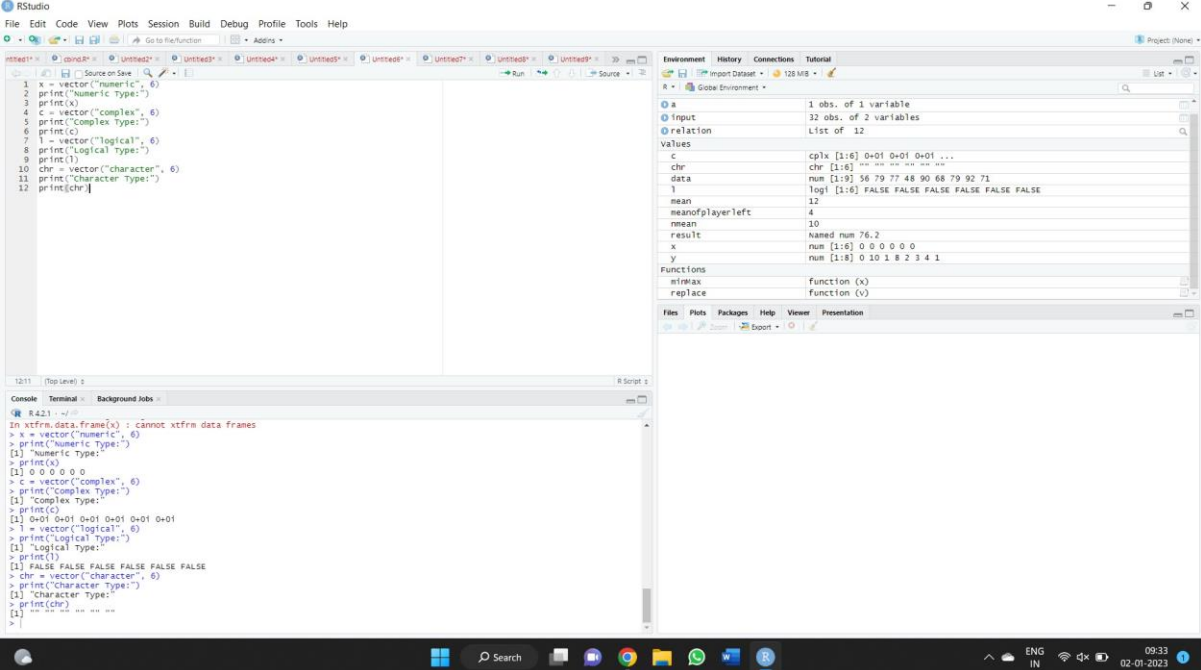


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1.



The screenshot shows the RStudio interface. The script editor contains the following code:

```
1 x = vector("numeric", 6)
2 print("numeric type:")
3 print(x)
4 c = vector("complex", 6)
5 print("complex type:")
6 print(c)
7 l = vector("logical", 6)
8 print("logical type:")
9 print(l)
10 chr = vector("character", 6)
11 print("character type:")
12 print(chr)
```

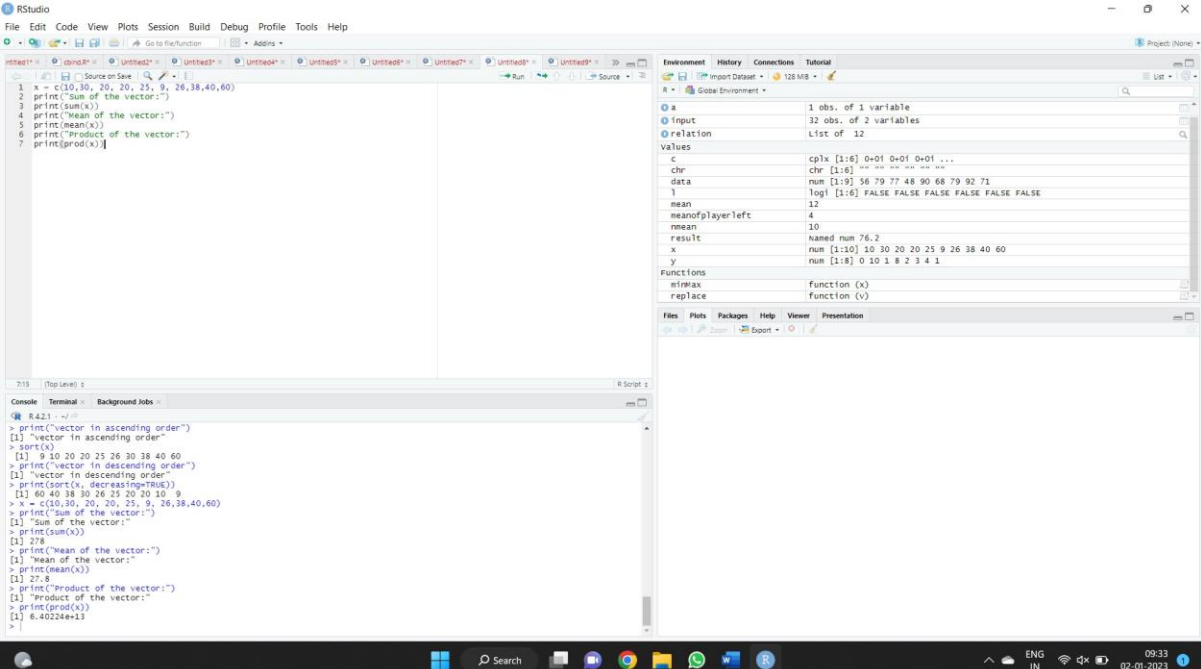
The console output shows the execution of these commands, resulting in the following output:

```
In xfrm.data.frame(x): cannot xfrm data frames
> x = vector("numeric", 6)
> print("numeric type:")
[1] "numeric type:"
> print(x)
[1] 0 0 0 0 0 0
> c = vector("complex", 6)
> print("complex type:")
[1] "complex type:"
> print(c)
[1] 0+0i 0+0i 0+0i 0+0i 0+0i 0+0i
> l = vector("logical", 6)
> print("logical type:")
[1] "logical type:"
> print(l)
[1] FALSE FALSE FALSE FALSE FALSE FALSE
> chr = vector("character", 6)
> print("character type:")
[1] "character type:"
> print(chr)
[1] 
```

The Environment pane on the right shows the following objects:

Object	Class	Attributes
x	numeric	1 obs. of 1 variable
c	complex	1 obs. of 1 variable
l	logical	1 obs. of 1 variable
chr	character	1 obs. of 1 variable
data	data.frame	32 obs. of 2 variables
relation	relation	List of 12
mean	mean	num [1:6] 0 0 0 0 0 0
meanofplayerleft	mean	num [1:6] 0 0 0 0 0 0
nmean	nmean	num [1:6] 0 0 0 0 0 0
result	result	num [1:6] 0 0 0 0 0 0
x	x	num [1:6] 0 0 0 0 0 0
y	y	num [1:6] 0 0 0 0 0 0
Functions	Functions	Function (x)
replace	replace	Function (x)

2.



The screenshot shows the RStudio interface. The script editor contains the following code:

```
1 x = c(10,30,20,25,9,26,38,40,60)
2 print("sum of the vector:")
3 print(sum(x))
4 print("mean of the vector:")
5 print(mean(x))
6 print("product of the vector:")
7 print(prod(x))
```

The console output shows the execution of these commands, resulting in the following output:

```
> print("vector in ascending order")
[1] "vector in ascending order"
> sort(x)
[1] 9 10 20 25 26 38 40 60
> print("vector in descending order")
[1] "vector in descending order"
> sort(x, decreasing=TRUE)
[1] 60 40 38 30 26 25 20 10 9
> x = c(10,30,20,25,9,26,38,40,60)
> print("sum of the vector:")
[1] "sum of the vector:"
> print(sum(x))
[1] 278
> print("mean of the vector:")
[1] "mean of the vector:"
> print(mean(x))
[1] 27.8
> print("product of the vector:")
[1] "product of the vector:"
> print(prod(x))
[1] 6.40224e+13
```

The Environment pane on the right shows the following objects:

Object	Class	Attributes
x	numeric	1 obs. of 1 variable
c	complex	1 obs. of 1 variable
chr	character	1 obs. of 1 variable
data	data.frame	32 obs. of 2 variables
relation	relation	List of 12
mean	mean	num [1:6] 0 0 0 0 0 0
meanofplayerleft	mean	num [1:6] 0 0 0 0 0 0
nmean	nmean	num [1:6] 0 0 0 0 0 0
result	result	num [1:6] 0 0 0 0 0 0
x	x	num [1:10] 10 30 20 25 9 26 38 40 60
y	y	num [1:6] 0 0 0 0 0 0
Functions	Functions	Function (x)
replace	replace	Function (x)

The screenshot displays the RStudio environment with the following components:

- Menu Bar:** File, Edit, Code, View, Plots, Session Build, Debug, Profile, Tools, Help.
- Source Editor:** Contains R code for creating and sorting vectors.


```
1 x = c(10,30, 20, 20, 25, 9, 26,38,40,60)
2 print("vector in ascending order")
3 sort(x)
4 print("vector in descending order")
5 print(sort(x, decreasing=TRUE))
```
- Console:** Shows the output of the executed code.


```
> print(c)
[1] 0+0i 0+0i 0+0i 0+0i 0+0i 0+0i
> t = vector("logical", 6)
> print("Logical Type:")
[1] "logical type:"
> print(t)
[1] FALSE FALSE FALSE FALSE FALSE
> chr = vector("character", 6)
> print("Character Type:")
[1] "character type:"
> print(chr)
[1] "" "" "" "" "" ""
> x = c(10,30, 20, 20, 25, 9, 26,38,40,60)
> print("vector in ascending order")
[1] "vector in ascending order"
> sort(x)
[1] 9 10 20 20 25 26 30 38 40 60
> print("vector in descending order")
[1] "vector in descending order"
> print(sort(x, decreasing=TRUE))
[1] 60 40 38 30 26 25 20 20 10 9
```
- Environment:** Lists variables in the workspace.

Variable	Description
a	1 obs. of 1 variable
input	32 obs. of 2 variables
relation	List of 12
Values	
c	cplx [1:6] 0+0i 0+0i 0+0i ...
chr	chr [1:6] "" "" "" "" "" ""
data	num [1:9] 56 79 77 48 90 68 79 92 71
l	logi [1:6] FALSE FALSE FALSE FALSE FALSE
mean	12
meanofplayerleft	4
mmean	10
result	named num 76.2
x	num [1:10] 10 30 20 20 25 9 26 38 40 60
y	num [1:8] 0 10 1 8 2 3 4 1
Functions	
minmax	function (x)
replace	function (v)
- Files:** Shows the project file structure.
- Status Bar:** Displays the current session state and time (02:01:2023).

The screenshot displays the RStudio environment. The top menu bar includes File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, and Help. The main script editor contains the following R code:

```
1 x = c(10,30, 20, 20, 25, 9, 26,38,40,60)
2 print("4th highest number")
3 find()
4 print(sort(x,TRUE)[n])
```

The console at the bottom shows the output of the code:

```
R 4.2.1 >
> print(sort(x,TRUE)[n])
[1] 25
```

The Environment pane on the right shows the following variables:

- Data:**
 - `a`: 1 obs. of 1 variable
 - `input`: 32 obs. of 2 variables
 - `relation`: L1st of 12
- Values:**
 - `data`: num (1:9) 56 79 77 48 90 68 79 92 71
 - `mean`: 12
 - `meanofplayerleft`: 4
 - `o`: 6
 - `nmean`: 10
 - `result`: Named num 76.2
 - `x`: num (1:10) 10 10 20 20 25 9 26 38 40 60
 - `y`: num (1:8) 0 10 1 8 2 3 4 1
- Functions:**
 - `simmax`: function (x)
 - `replace`: function (v)

The bottom status bar shows the system tray with icons for network, volume, and battery, along with the date and time: 02-01-2023 10:34.

