

BIG DATA AND ANALYTICS LAB

(BCSE 0183)

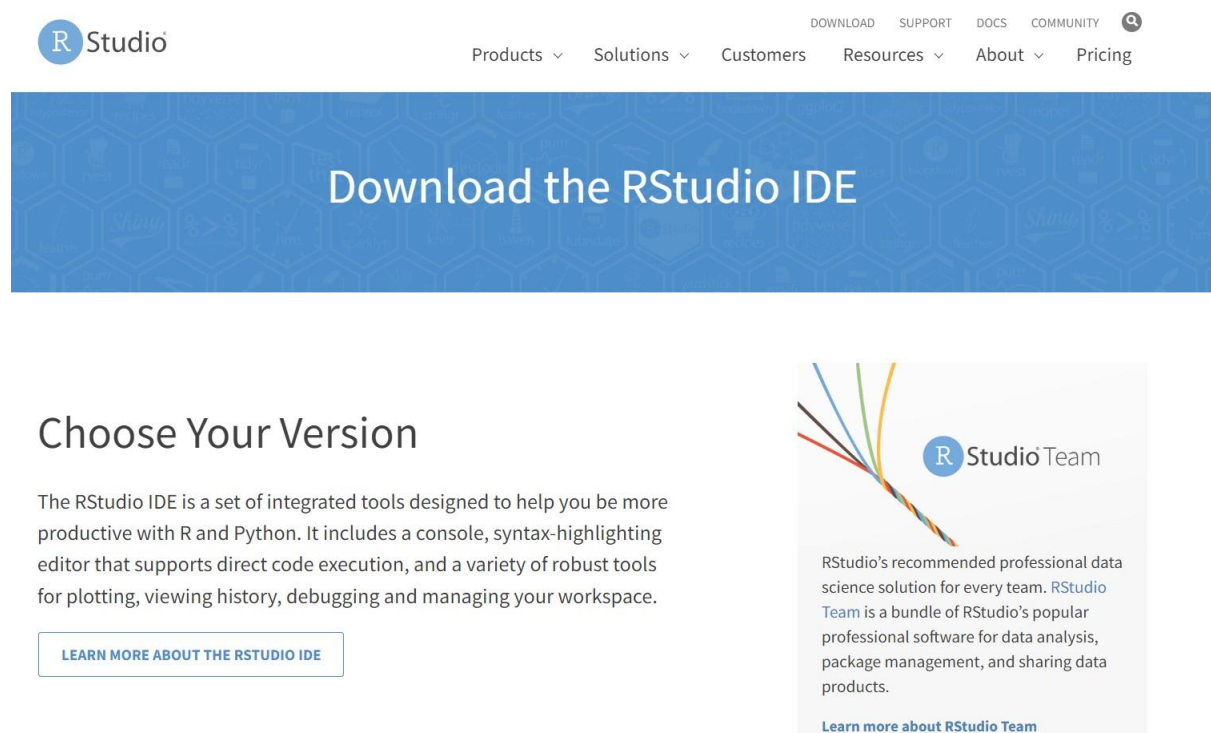
ASSIGNMENT - 01

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SECTION :- B (62)

1) Installation of R and R Studio at your respective machine/system.

Click on the given below link to download R Studio :

<https://www.rstudio.com/products/rstudio/download/#download>



The screenshot shows the RStudio website homepage. At the top, there is a navigation bar with the RStudio logo on the left and links for Products, Solutions, Customers, Resources, About, and Pricing in the center. On the right side of the navigation bar are links for DOWNLOAD, SUPPORT, DOCS, and COMMUNITY, along with a search icon. Below the navigation bar is a large blue banner with the text "Download the RStudio IDE". Underneath the banner, on the left, is the heading "Choose Your Version" followed by a paragraph describing the RStudio IDE as a set of integrated tools for R and Python. Below this paragraph is a button that says "LEARN MORE ABOUT THE RSTUDIO IDE". On the right side of the page, there is a section for "RStudio Team" featuring a graphic of several colored lines converging at a point. Below the graphic, there is a paragraph describing RStudio Team as a professional data science solution and a bundle of popular software. At the bottom of this section is a link that says "Learn more about RStudio Team".

Choose Your Version

The RStudio IDE is a set of integrated tools designed to help you be more productive with R and Python. It includes a console, syntax-highlighting editor that supports direct code execution, and a variety of robust tools for plotting, viewing history, debugging and managing your workspace.

[LEARN MORE ABOUT THE RSTUDIO IDE](#)

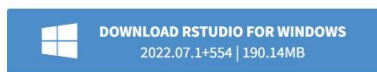
RStudio Team

RStudio's recommended professional data science solution for every team. **RStudio Team** is a bundle of RStudio's popular professional software for data analysis, package management, and sharing data products.

[Learn more about RStudio Team](#)

RStudio Desktop 2022.07.1+554 - [Release Notes](#)

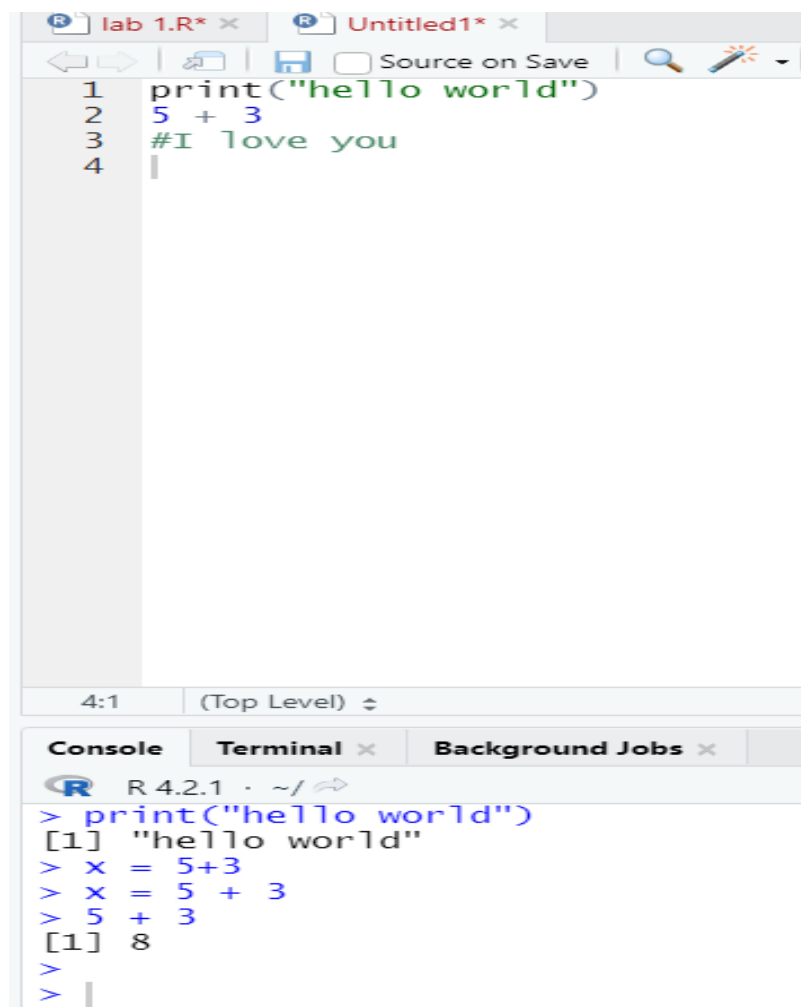
1. Install R. [RStudio requires R 3.3.0+](#)
2. Download RStudio Desktop. Recommended for your system:



Requires Windows 10/11 (64-bit)



2) Basic Syntax – “Hello World” using print () function, variable declaration, Addition of two digits, Commenting a line or sentence

A screenshot of the RStudio Desktop application. The top pane shows a script editor with four lines of R code: 1. print("hello world"), 2. 5 + 3, 3. #I love you, and 4. A blank line. The bottom pane shows the console with the output of the code: the first line prints "hello world", and the second line calculates 5 + 3, resulting in 8. The console also shows the R prompt > and the R version R 4.2.1.

```
1 print("hello world")
2 5 + 3
3 #I love you
4
```

```
> print("hello world")
[1] "hello world"
> x = 5+3
> x = 5 + 3
> 5 + 3
[1] 8
>
>
```

3) R Data Types –

i numeric

ii integer

iii complex

iv character

v logical

```
Console Terminal x Background Jobs x
R 4.2.1 · ~/ ↵
> x <-10.5
> print(x)
[1] 10.5
> class(x)
[1] "numeric"
> x<-1000L
> class(x)
[1] "integer"
> x<-9i+5
> class(x)
[1] "complex"
> x<- "I am vaibhav"
> class(x)
[1] "character"
> x<- TRUE
> class(x)
[1] "logical"
```

4) R Operators –

i Arithmetic operators

ii Assignment operators

iii Comparison operators

iv Logical operators

v Miscellaneous operators

```
Console Terminal x Background Jobs x
R 4.2.1 · ~/ ↗
> x<- 10+20
> x
[1] 30
> my_var<- 3
> my_var<<- 3
> 3-> my_var
> 3 ->> my_var
> my_var
[1] 3
> x=20
> y=20
> x==y
[1] TRUE
```

```
> v <- c(3,0,TRUE,2+2i)
> print(!v)
[1] FALSE TRUE FALSE FALSE
> x<-2:8
> print(x)
[1] 2 3 4 5 6 7 8
>
```

```
Console Terminal x Background Jobs x
R 4.2.1 · ~/
> print(v+t)
Error in print(v + t) : object 'v' not found
> print(z)
[1] 1.10 9.00 3.14
> v <- c( 2,5.5,6)
>
> t <- c(8, 3, 4)
> print(v+t)
[1] 10.0 8.5 10.0
> v <- c(2,5.5,6,9)
> t <- c(8,2.5,14,9)
> print(v>t)
[1] FALSE TRUE FALSE FALSE
> v <- c(3,1,TRUE,2+3i)
> t <- c(4,1,FALSE,2+3i)
> print(v&t)
[1] TRUE TRUE FALSE TRUE

> v1 <- c(3,1,TRUE,2+3i)
> v2 <- c(3,1,TRUE,2+3i)
> v3 = c(3,1,TRUE,2+3i)
> print(v1)
[1] 3+0i 1+0i 1+0i 2+3i
> print(v2)
[1] 3+0i 1+0i 1+0i 2+3i
> print(v3)
[1] 3+0i 1+0i 1+0i 2+3i
> v<-2:8
> print(v)
[1] 2 3 4 5 6 7 8
> |
```

5) Built-in Math Functions

i) min() and max()

ii) sqrt()

iii) ceiling() and floor()

iv) abs ()

```
Console Terminal x Background Jobs x
R 4.2.1 · ~/
> nums<-c(1:5)
> max(nums)
[1] 5
> min(nums)
[1] 1
> sqrt(nums)
[1] 1.000000 1.414214 1.732051 2.000000 2.236068
> ceiling(nums)
[1] 1 2 3 4 5
> floor(nums)
[1] 1 2 3 4 5
> abs(nums)
[1] 1 2 3 4 5
```

6) Basic Syntax – “Hello World” using print () function, variable declaration, Addition of two digits, Commenting a line or sentence (both single & multiline).

```
Console Terminal x Background Jobs x
R 4.2.1 · ~/
> print(" Hello world")
[1] " Hello world"
> var1<- 10
> var2<- "xyz"
> var1
[1] 10
> var2
[1] "xyz"
> var1<-10
> var2<-20
> var1+var2
[1] 30
> #this is a comment.
>
```

