Introduction to R / RStudio

About R and R studio

- R is a free software environment for statistical computing and graphics
- It’s open source and therefore available free of charge
- R studio is a powerful and productive user interface for *R*
- It's free and open source, and works great on Windows, Mac, and Linux.
- R is an object oriented programming language where we create objects and manipulate them as intended
- Objects can be Data frames, vectors, matrices, lists, raw data, spatial objects , maps etc

Why R Language

- R is not just a statistics package, it's a language(allows us to specify the performance of new tasks without any limitations)
- R is designed to operate the way that problems are thought about and has very simple syntax
- R is both flexible and powerful
- It is very interactive and thus suitable for data analysis
- R syntax is very simple and intuitive. *For instance,*

```
n <- 10 + 2
n
[1] 12
```

Install R for windows

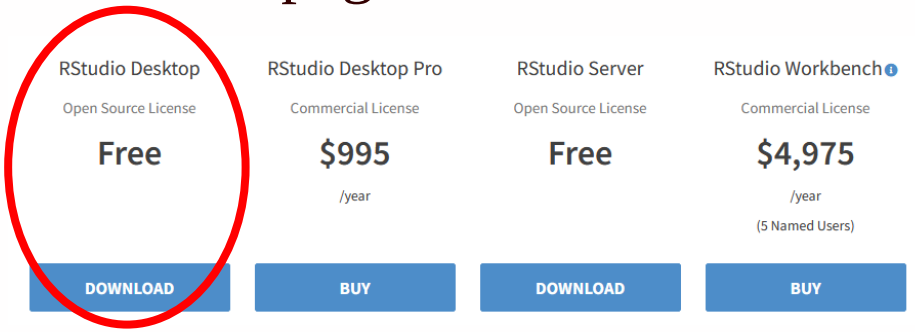
Go to your browser and search for **R 4.1.2 windows**

- Choose **Download R-4.1.2 for Windows**
- Click, **Download R 3.2.4 for windows** (86 megabytes, 32/64 bit)
- Then, **save** the file and **run** it after download is complete.
- **Click next** in all the popups that appear then **finish.**

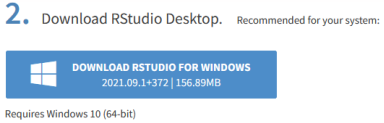
Open the installed r

Install Rstudio

- Open browser and search for **rstudio download**
- Choose Download the RStudio IDE –**RStudio**
- Scroll down the page and click **Rstudio Destop Free**

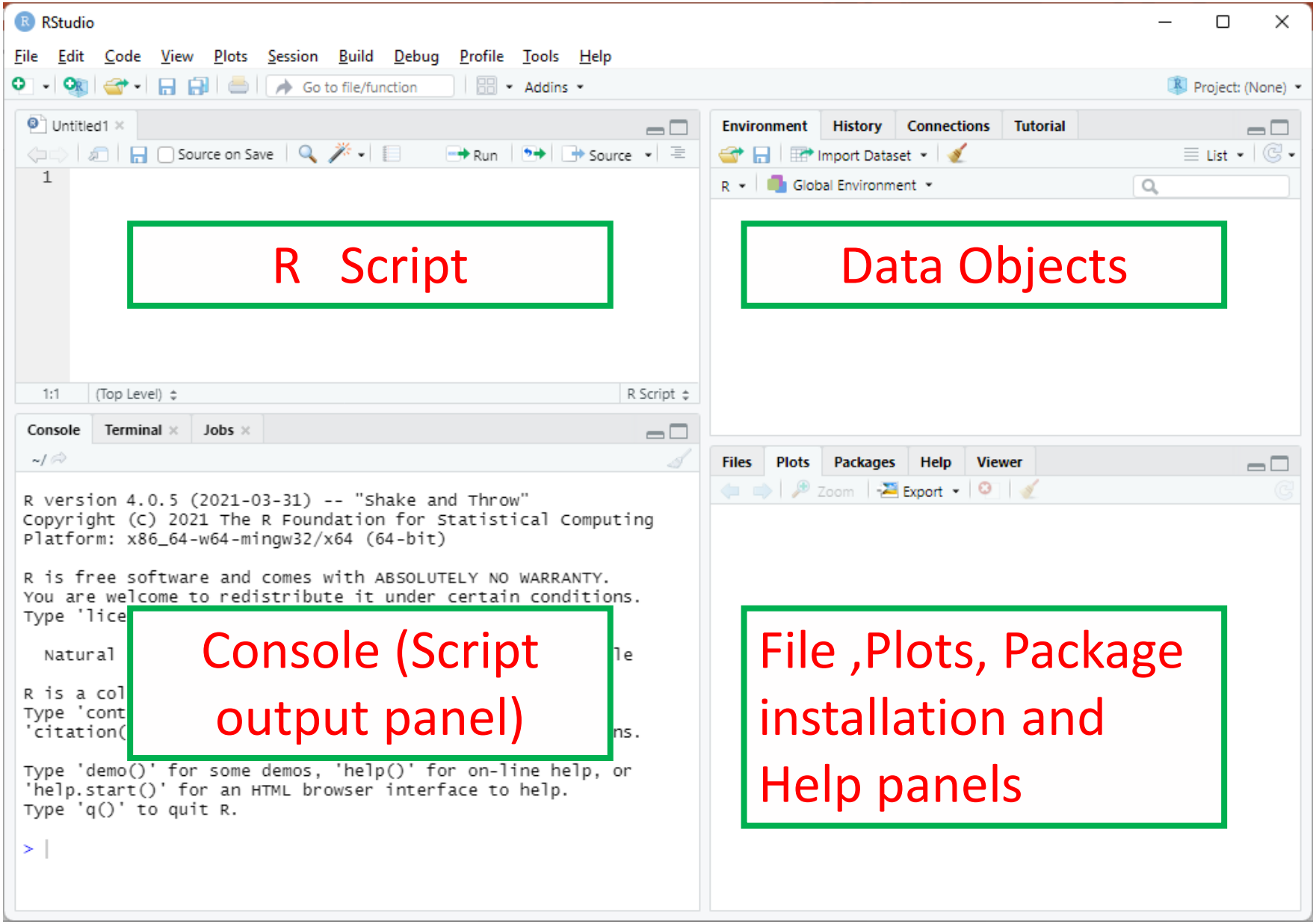


- Choose the download file according to your **operating system**



- Save the file and run it after download is complete.
- Click **Next** and then **Finish**

Rstudio


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function
Addins
Project: (None)
Untitled1
Source on Save
Run
Source
1
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R Script
R Script
Environment History Connections Tutorial
Import Dataset
List
R
Global Environment
Data Objects
Console Terminal Jobs
~/
R version 4.0.5 (2021-03-31) -- "Shake and Throw"
Copyright (C) 2021 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64 (64-bit)
R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
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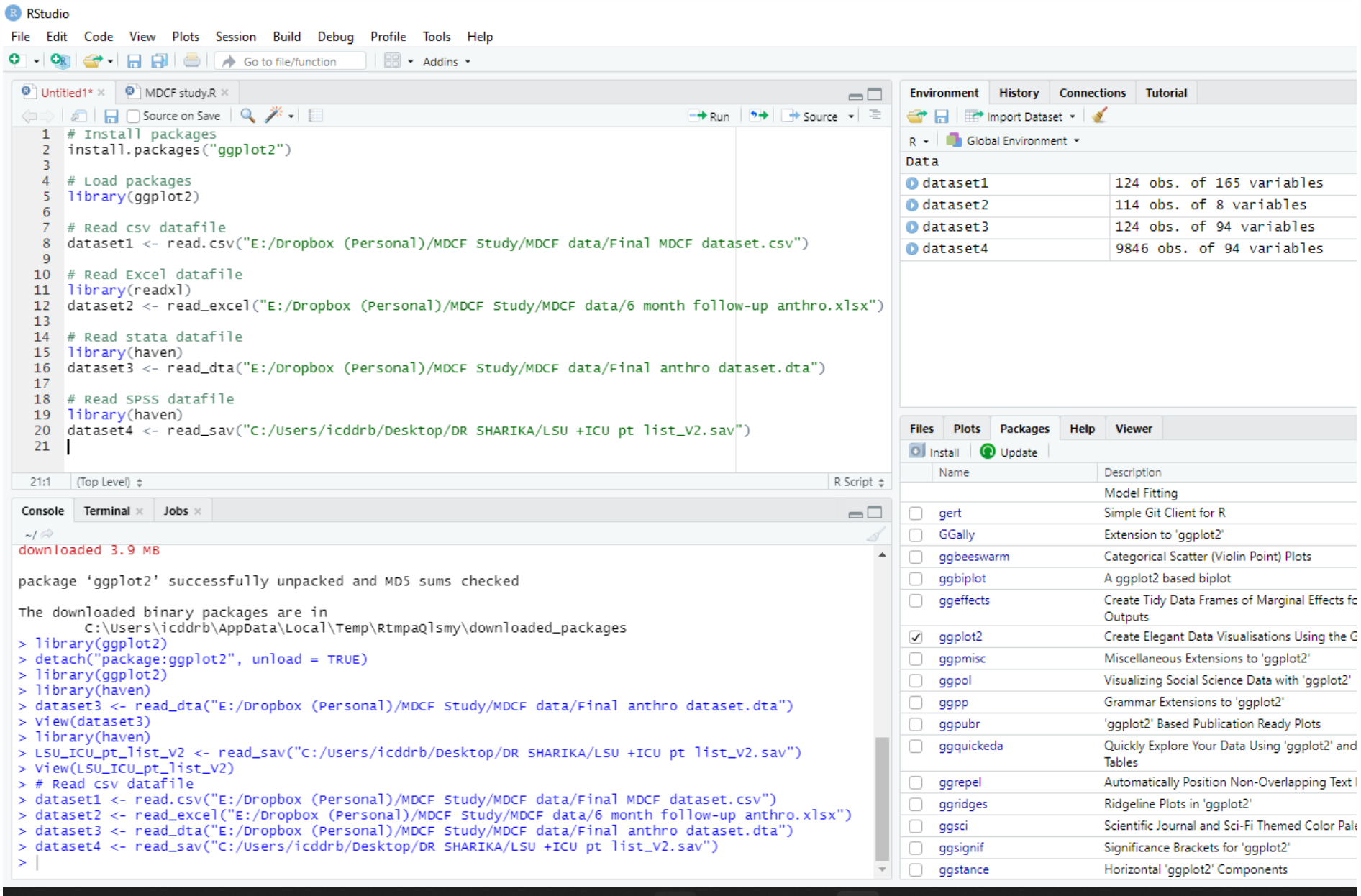
R is a col
Type 'cont
'citation(
Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.
>
Console (Script output panel)
Files Plots Packages Help Viewer
Zoom
Export
File ,Plots, Package installation and Help panels

Read Data in RStudio



```
# Install packages
install.packages("ggplot2")
# Load packages
library(ggplot2)
# Read csv datafile
dataset1 <- read.csv("E:/Dropbox (Personal)/MDCF Study/MDCF data/Final MDCF dataset.csv")
# Read Excel datafile
library(readxl)
dataset2 <- read_excel("E:/Dropbox (Personal)/MDCF Study/MDCF data/Follow-up anthro.xlsx")
# Read stata datafile
library(haven)
dataset3 <- read_dta("E:/Dropbox (Personal)/MDCF Study/MDCF data/Final anthro dataset.dta")
# Read SPSS datafile
library(haven)
dataset4 <- read_sav("C:/Users/icddrb/Desktop/DR SHARIKA/LSU +ICU pt list_V2.sav")
```

Thank you

icddr,b thanks its core donors for their on-going support

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UKaid from the British people