**Exercise No -4**

**Title of Experiment: String Operations using R**

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**#R Version: 3.6.3**

**#R Studio Version: 1.3.1093**

**Abstract**

Any value written within a pair of single quote or double quotes in R is treated as a string. Internally R stores every string within double quotes, even when you create them with single quote.

I**ntroduction**

* Double quotes can be inserted into a string starting and ending with single quote.
* Single quote can be inserted into a string starting and ending with double quotes.

**Prerequisite for experiment**

* To work through the examples you will the stringr package.
  1. install necessary packages:

install.packages("tidyverse")

library(tidyverse)#for str\_view\_all function to extract all string by word

library(stringi) #for string manipulation

**Q1) Create string “Learning R Programming Is Very Interesting”**

**Explanation:** To create a string we can write the text inside the quotes as below.

**Solution:**

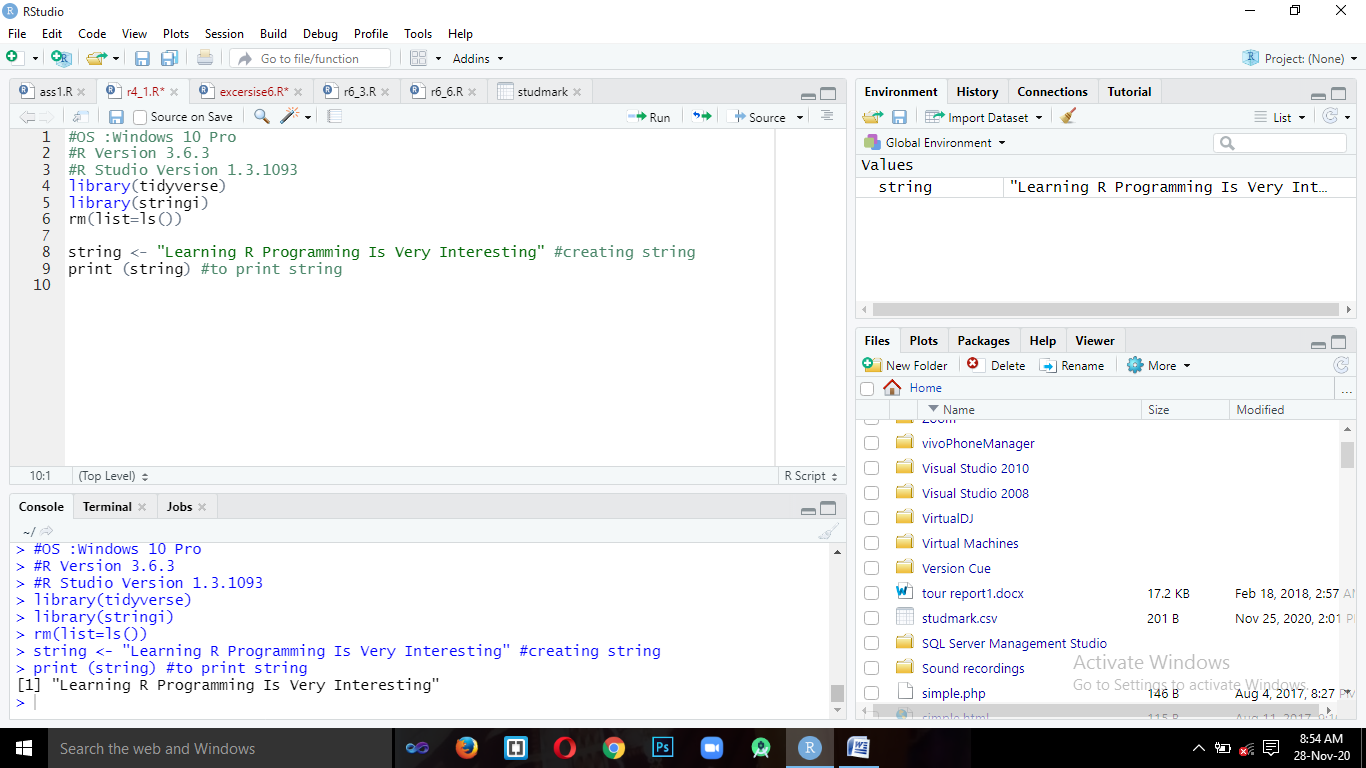
rm(list=ls())

string <- "Learning R Programming Is Very Interesting" #creating string

> print (string) #to print string

[1] "Learning R Programming Is Very Interesting"

**Screen:**



**Q2) Count No. of Characters in string.**

**Explanation:** To count the no. of characters from the given string we use the nchar( ) function of a stringi library package.

**Solution:**

library(tidyverse)

library(stringi)

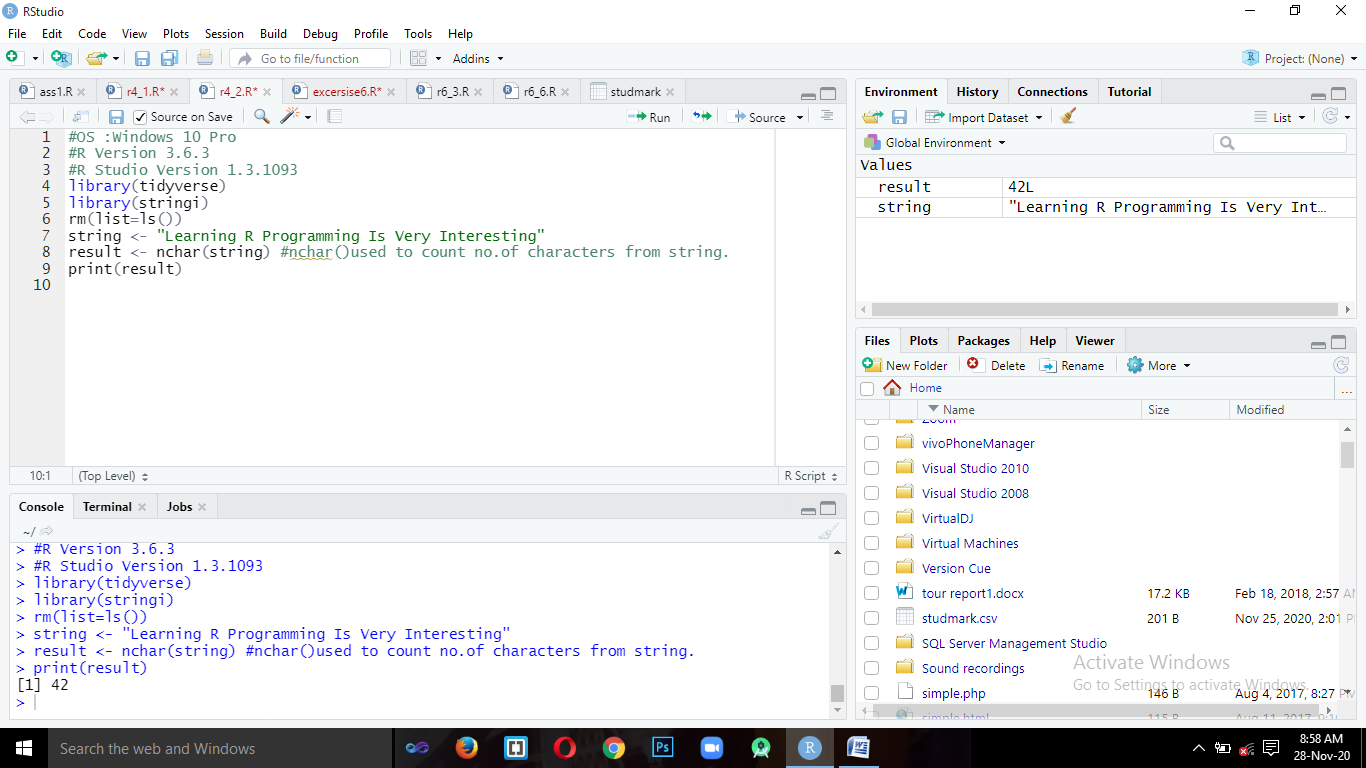
rm(list=ls())

string <- "Learning R Programming Is Very Interesting"

result <- nchar(string) #nchar()used to count no.of characters from string.

print(result)

[1] 42

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**Q3) Display each word of string separately.**

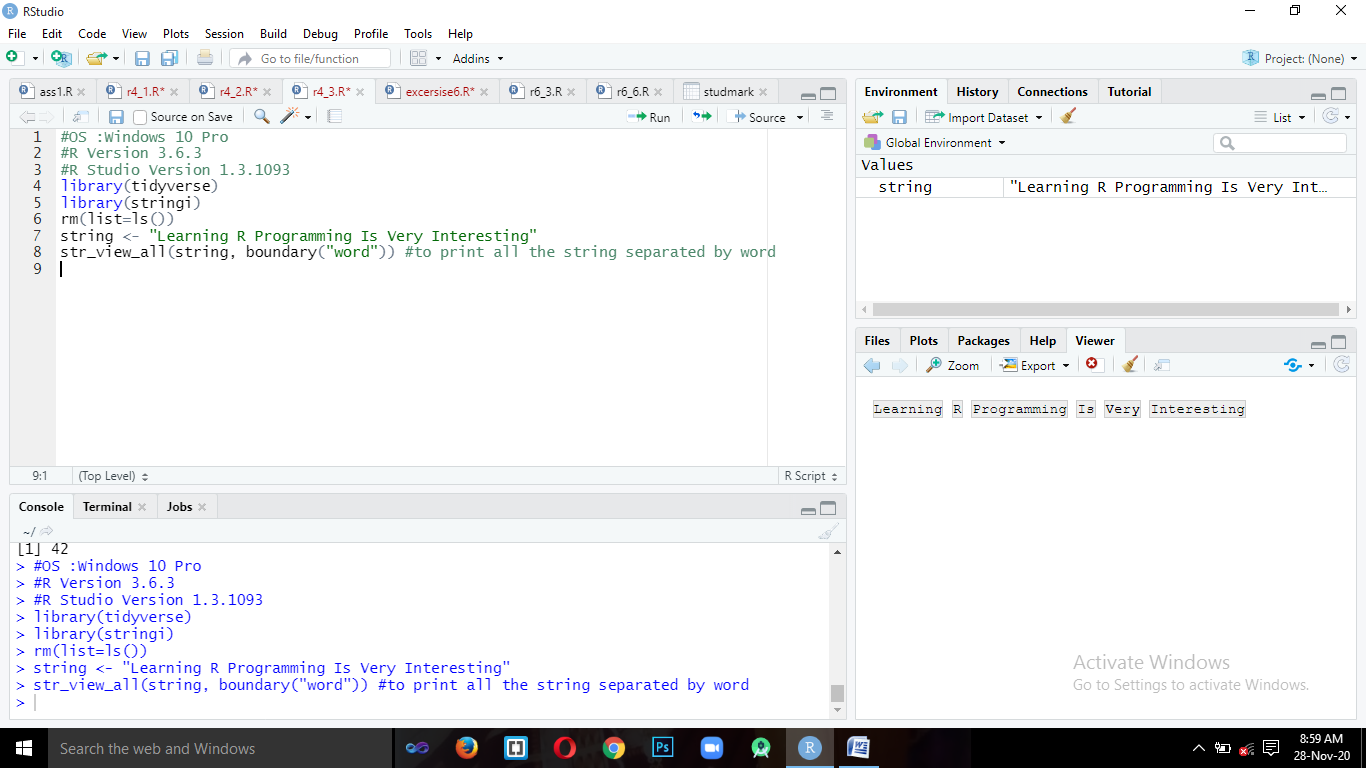
**Explanation:** To display each word of a string separately we use str\_extract\_all( ) function with arguments as name of the variable/vector which hold the whole string and the second argument is like boundary which should specify by word because we want to separate each word of a string.

**Solution:**

str\_extract\_all(string, boundary("word")) #to print all the string separated by word

[1] "Learning" "R" "Programming" "Is" "Very" "Interesting"

**Screen:**



**Q4) Display String in uppercase.**

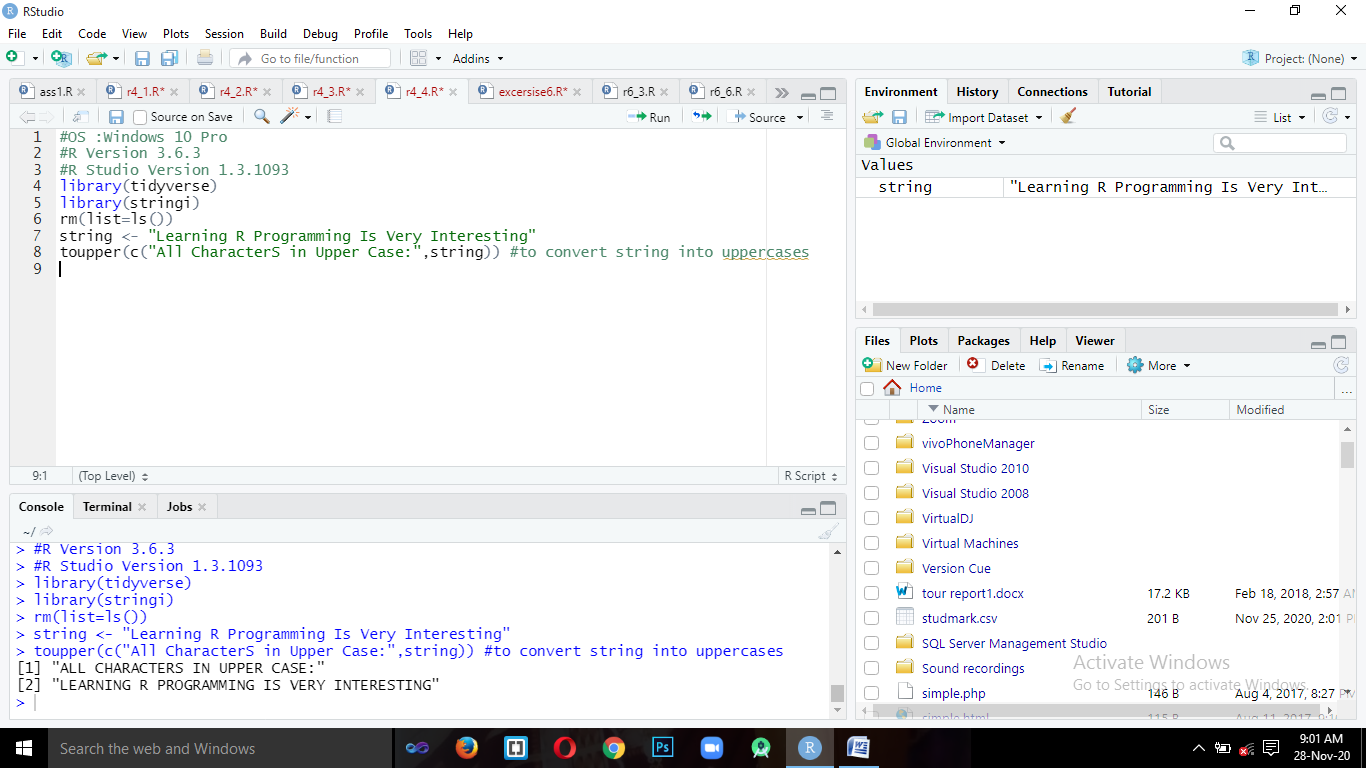
**Explanation:** To transform the string into the uppercase we have to use toupper( ) function for string manipulation.

**Solution:**

toupper(c("All CharacterS in Upper Case:",string)) #to convert string into uppercases

[1] "ALL CHARACTERS IN UPPER CASE:" "LEARNING R PROGRAMMING IS VERY INTERESTING"

**Screen:**

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**Q5) Display String in lowercase.**

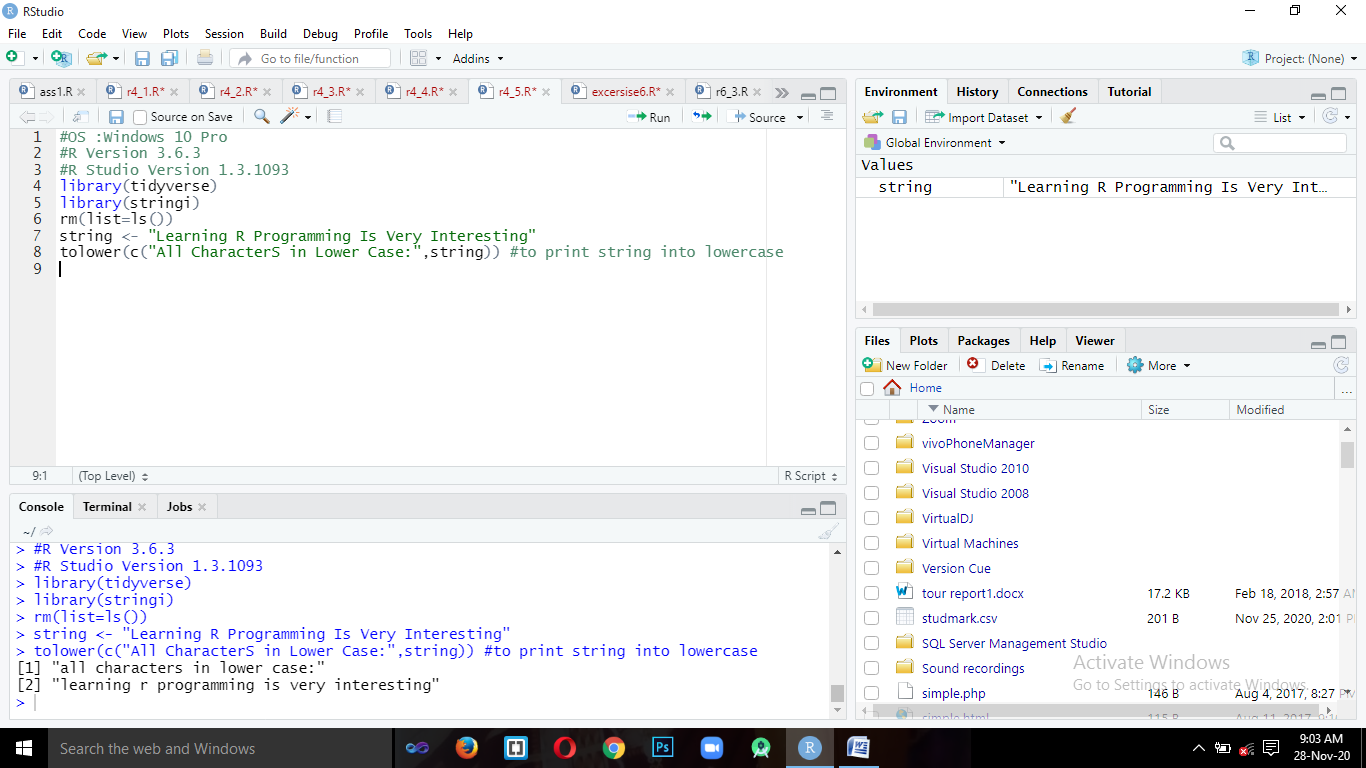
**Explanation:** To transform the string into the lowercase we have to use tolower( ) function for string manipulation.

**Solution:**

tolower(c("All CharacterS in Lower Case:",string)) #to print string into lowercase

[1] "all characters in lower case:" "learning r programming is very interesting"

**Screen:**

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**Q6) Display Substring as a “R Programming”.**

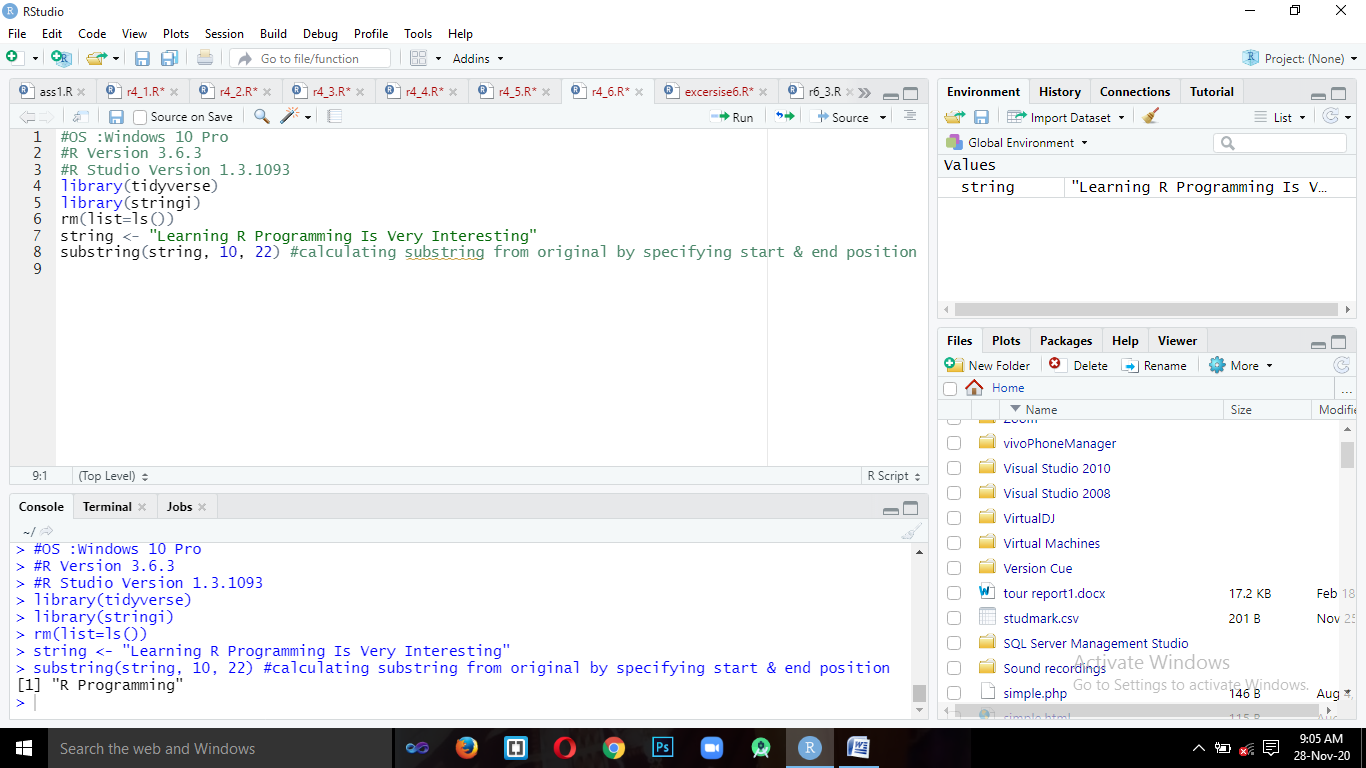
**Explanation:** To print the substring from the given string we have to use substring ( )function with arguments name of the string holding variable, the start and the end position count of the substring.

**Solution:**

substring (string, 10, 22) #calculating substring from original by specifying start & end position

[1] "R Programming"

**Screen:**

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**Q7) Display string in reverse order.**

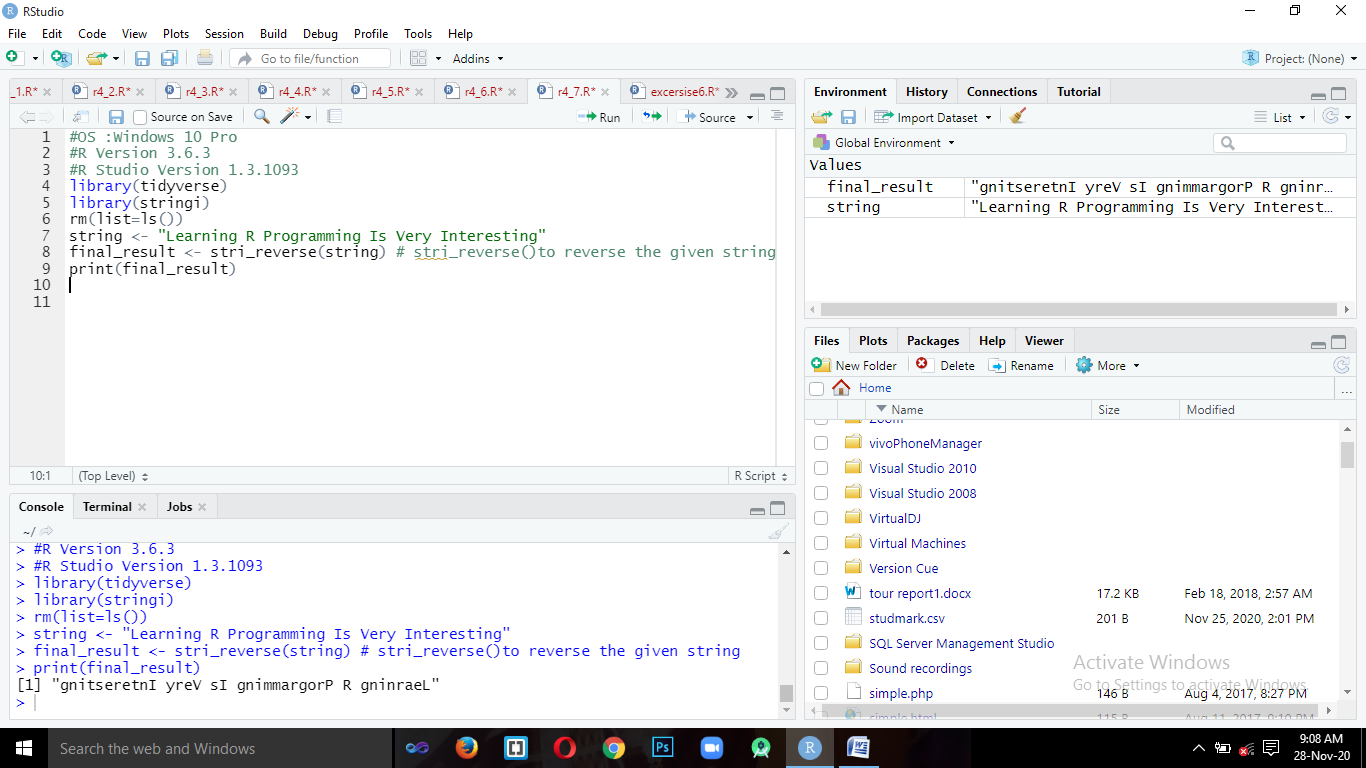
**Explanation:** To display the given string in reverse order we have to use the stri\_reverse( ) function by passing a parameter name as a variable which should hold the whole string.

**Solution:**

final\_result <- stri\_reverse(string) # stri\_reverse()to reverse the given string

> print(final\_result)

[1] "gnitseretnI yreV sI gnimmargorP R gninraeL"

**Screen: **

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