ACADGILD

SESSION 8: Exploratory Data Analytics

Assignment 3

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1. Introduction

This assignment will help you understand the concepts learnt in the session.

2. Objective

This assignment will test your skills on Variables & Distributions in R.

3. Prerequisites

Not applicable.

4. Associated Data Files

Not applicable.

5. Problem Statement

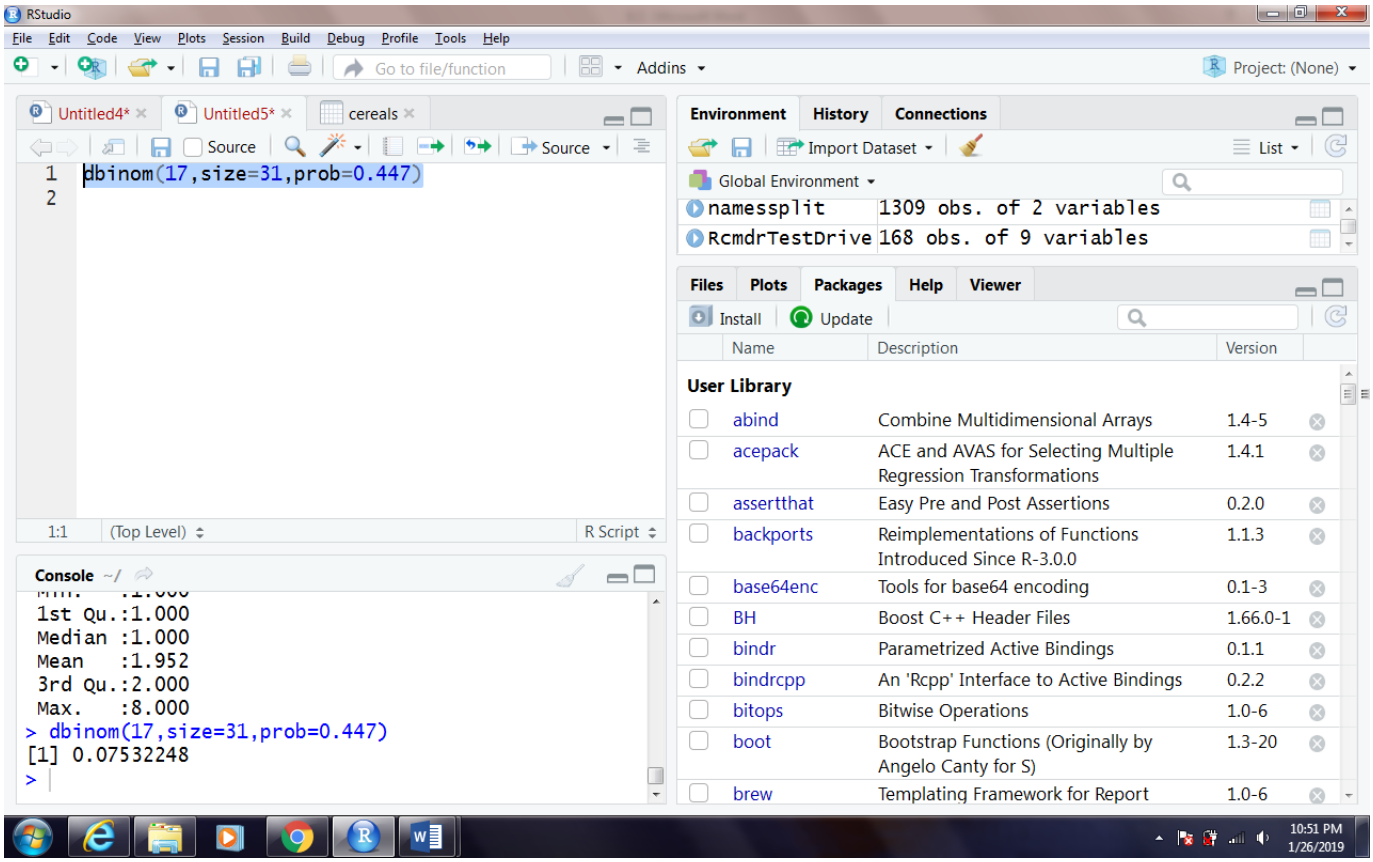
1. A recent national study showed that approximately 44.7% of college students have used Wikipedia as a source in at least one of their term papers. Let X equal the number of students in a random sample of size n = 31 who have used Wikipedia as a source.

Perform the below operations:

a. Find the probability that X is equal to 17
b. Find the probability that X is at most 13
c. Find the probability that X is bigger than 11.
d. Find the probability that X is at least 15.
e. Find the probability that X is between 16 and 19, inclusive

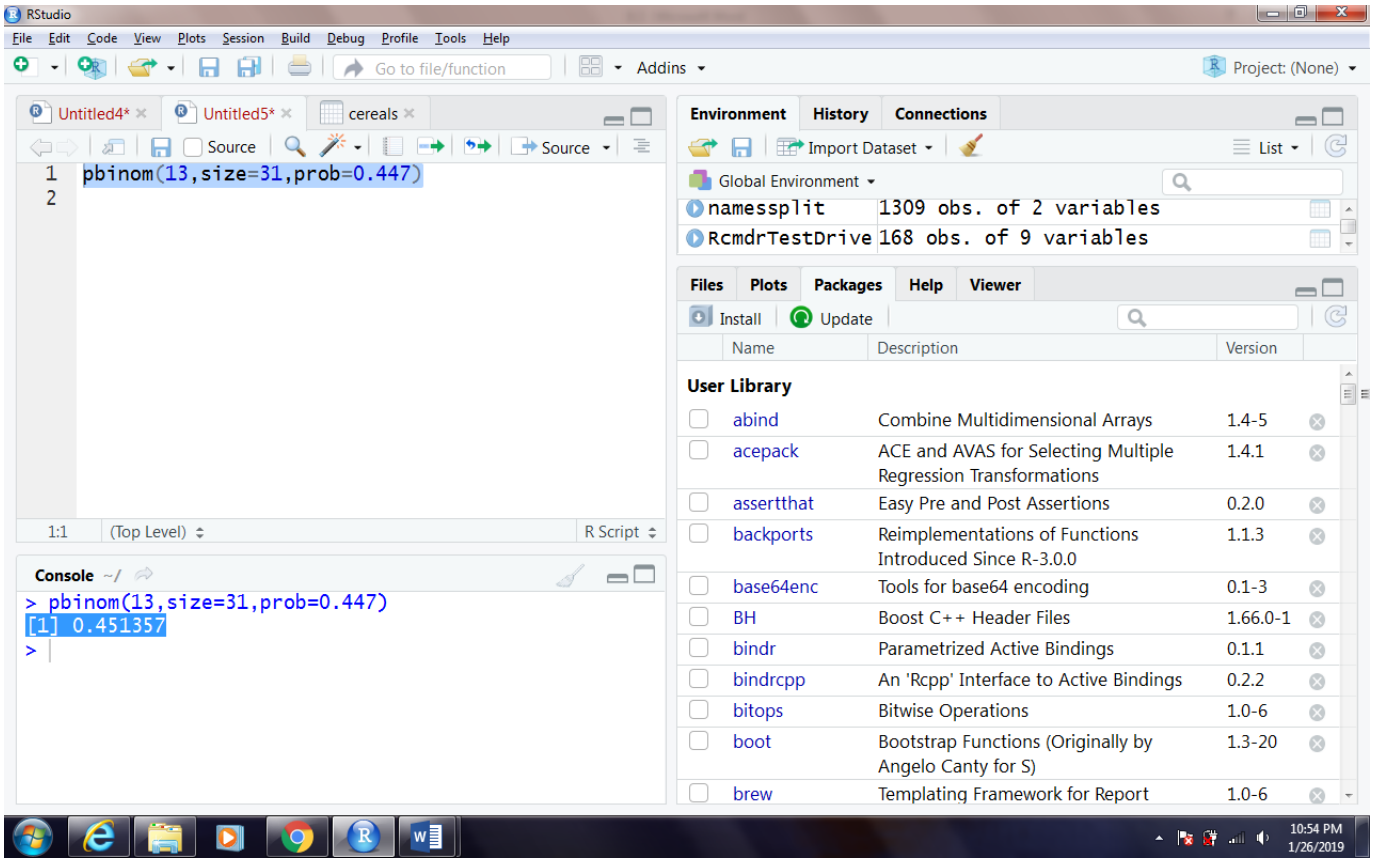
a- dbinom(17,size=31,prob=0.447)

```
[1] 0.07532248
```



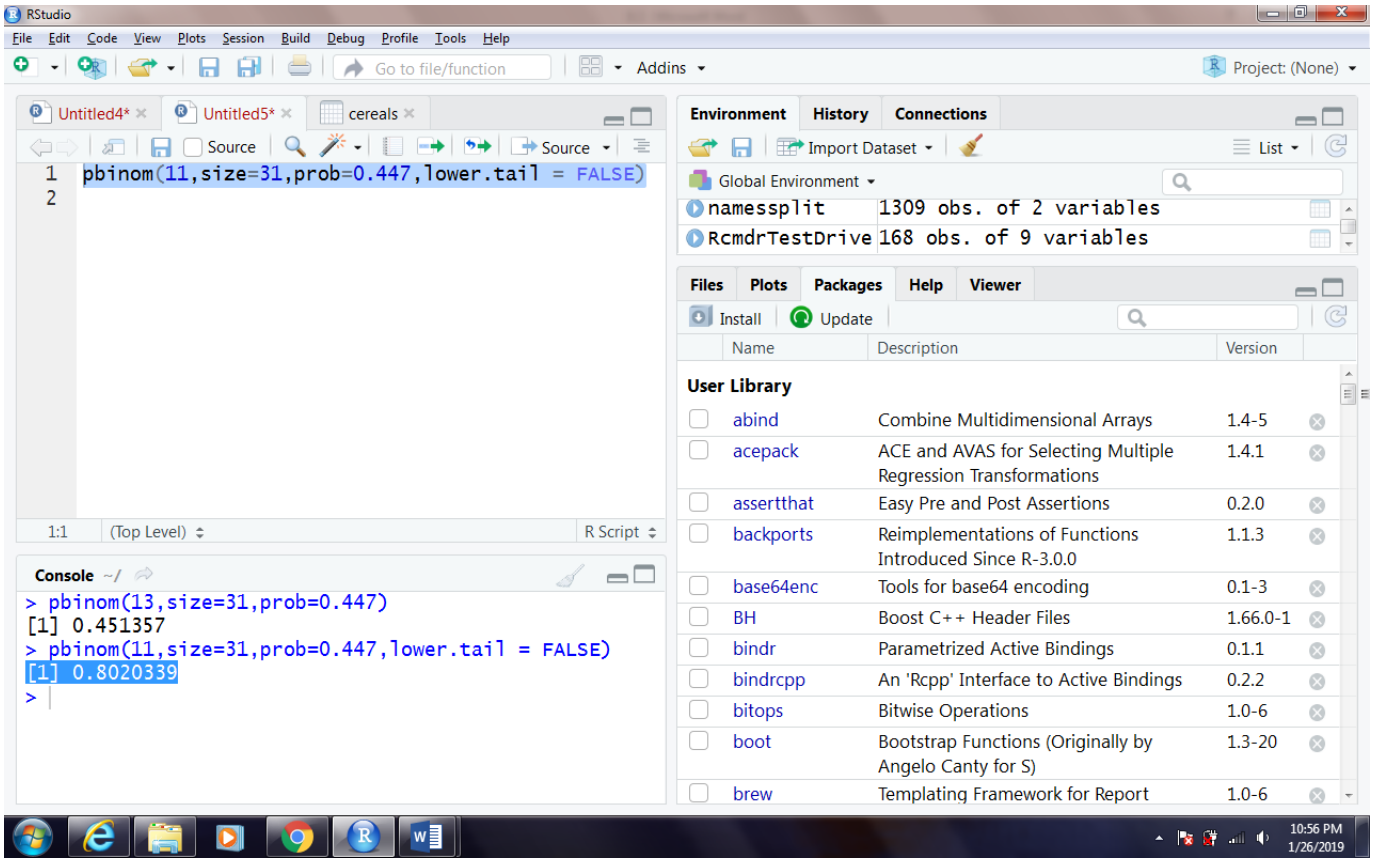
b) pbinom(13,size=31,prob=0.447)

```
[1] 0.451357
```



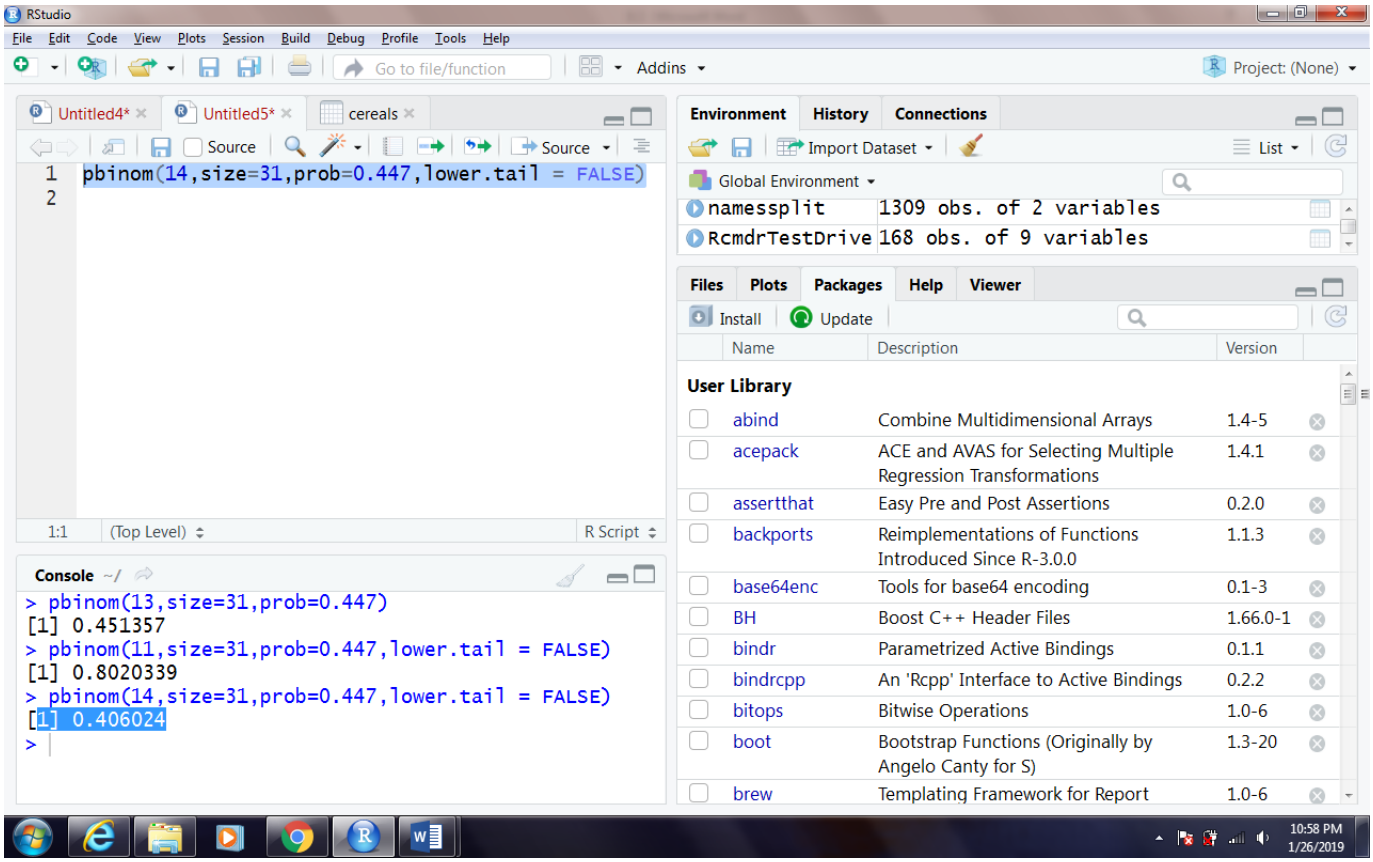
C)- pbinom(11,size=31,prob=0.447,lower.tail = FALSE)

```
[1] 0.8020339
```



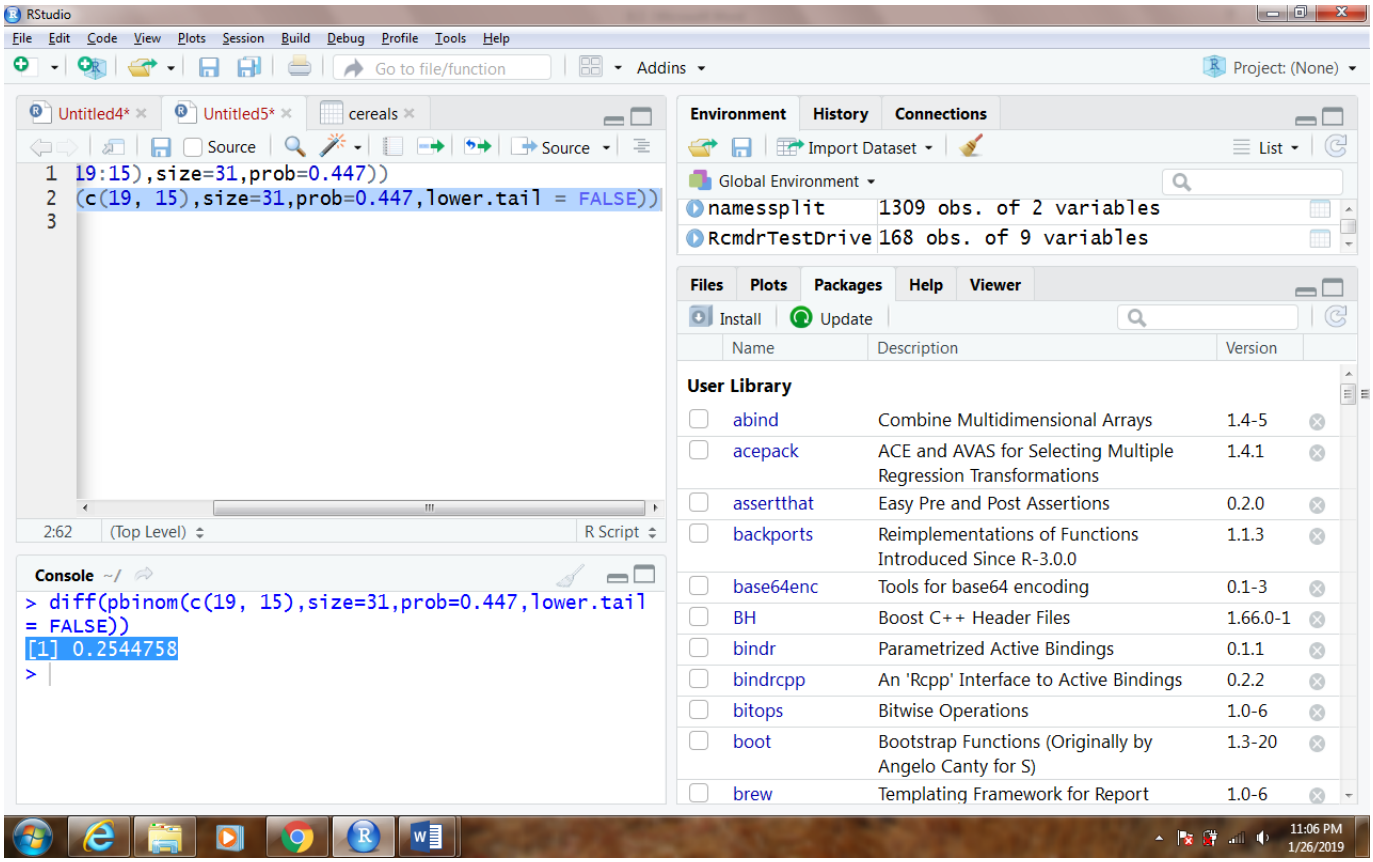
D)- pbinom(14,size=31,prob=0.447,lower.tail = FALSE)

1] 0.406024



e- diff(pbinom(c(19, 15),size=31,prob=0.447,lower.tail = FALSE))

[1] 0.2544758



6. Expected Output

Format

1. R file should be submitted where applicable.
2. R file should be in PDF or in .r format
3. Proper screenshots of the outputs should be submitted as well
4. The r codes, if submitted in any other format, will be subjected to deduction in marks

Note: Your solution will not be entertained if it is any other format, e.g., .zip, .doc, .rtf etc.

7. Approximate Time to Complete Task

30 mins.