ACADGILD ASSIGNMENT 8.3

SESSION 8: Exploratory Data Analytics

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

Solution:

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

Output from R-console:

```
> dbinom(17,size = 31,prob = 0.447)
[1] 0.07532248
```

b. Find the probability that X is at most 13

Solution:

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

Output from R-console:

```
> pbinom(13,size = 31,prob = 0.447)
[1] 0.451357
```

c. Find the probability that X is bigger than 11.

Solution:

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

Output from R-console:

```
> pbinom(11,size = 31,prob = 0.447,lower.tail = FALSE)
[1] 0.8020339
```

d. Find the probability that X is at least 15.

Solution:

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

Output from R-console:

```
> pbinom(14,size = 31,prob = 0.447,lower.tail = FALSE)
[1] 0.406024
```

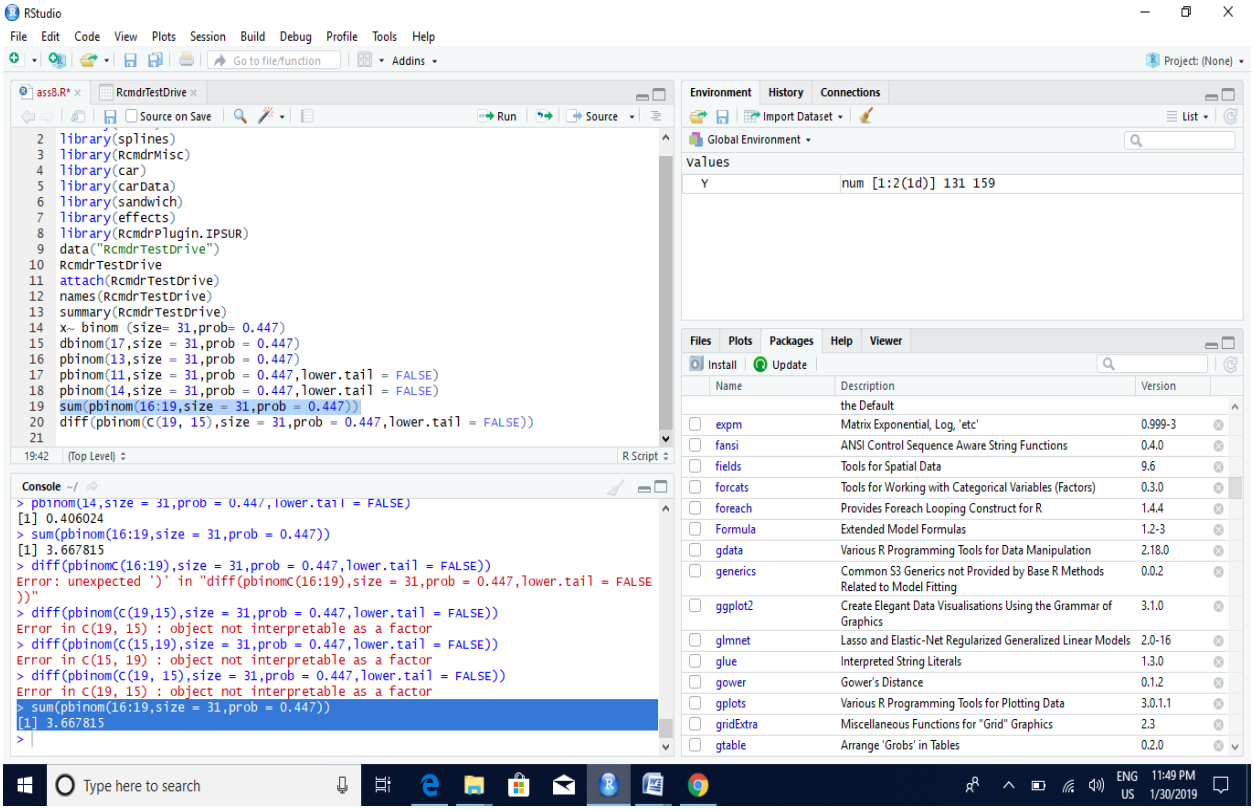
e. Find the probability that X is between 16 and 19, inclusive

Solution:

sum(pbinom(16:19,size = 31,prob = 0.447))

Output from R-console:

```
> sum(pbinom(16:19,size = 31,prob = 0.447))
[1] 3.667815
```


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
ass8.R*
RcmdrTestDrive
Source on Save
Run
Source
library(splines)
library(RcmdrMisc)
library(car)
library(carData)
library(sandwich)
library(effects)
library(RcmdrPlugin.IPSUR)
data("RcmdrTestDrive")
RcmdrTestDrive
attach(RcmdrTestDrive)
names(RcmdrTestDrive)
summary(RcmdrTestDrive)
x~ binom (size= 31,prob= 0.447)
dbinom(17,size = 31,prob = 0.447)
pbinom(13,size = 31,prob = 0.447)
pbinom(11,size = 31,prob = 0.447,lower.tail = FALSE)
pbinom(14,size = 31,prob = 0.447,lower.tail = FALSE)
sum(pbinom(16:19,size = 31,prob = 0.447))
diff(pbinom(C(19, 15),size = 31,prob = 0.447,lower.tail = FALSE))
19:42 (Top Level) R Script
Console ~/
> pbinom(14,size = 31,prob = 0.447,lower.tail = FALSE)
[1] 0.406024
> sum(pbinom(16:19,size = 31,prob = 0.447))
[1] 3.667815
> diff(pbinomC(16:19),size = 31,prob = 0.447,lower.tail = FALSE))
Error: unexpected ')' in "diff(pbinomC(16:19),size = 31,prob = 0.447,lower.tail = FALSE
))"
> diff(pbinom(C(19,15),size = 31,prob = 0.447,lower.tail = FALSE))
Error in C(19, 15) : object not interpretable as a factor
> diff(pbinom(C(15,19),size = 31,prob = 0.447,lower.tail = FALSE))
Error in C(15, 19) : object not interpretable as a factor
> diff(pbinom(C(19, 15),size = 31,prob = 0.447,lower.tail = FALSE))
Error in C(19, 15) : object not interpretable as a factor
> sum(pbinom(16:19,size = 31,prob = 0.447))
[1] 3.667815
>
Environment History Connections
Import Dataset
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Values
Y num [1:2(1d)] 131 159
Files Plots Packages Help Viewer
Install Update
Name Description Version
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expm Matrix Exponential, Log, 'etc' 0.999-3
fansi ANSI Control Sequence Aware String Functions 0.4.0
fields Tools for Spatial Data 9.6
forcats Tools for Working with Categorical Variables (Factors) 0.3.0
foreach Provides Foreach Looping Construct for R 1.4.4
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generics Common S3 Generics not Provided by Base R Methods Related to Model Fitting 0.0.2
ggplot2 Create Elegant Data Visualisations Using the Grammar of Graphics 3.1.0
glmnet Lasso and Elastic-Net Regularized Generalized Linear Models 2.0-16
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gower Gower's Distance 0.1.2
gplots Various R Programming Tools for Plotting Data 3.0.1.1
gridExtra Miscellaneous Functions for "Grid" Graphics 2.3
gtable Arrange 'Grobs' in Tables 0.2.0
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