Assignment 8.3

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 functions

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

```
How is X DISTRIBUTED?
```

```
X~binom (size=31, probability=0.447)
```

```
## x ~ binom(size = 31, probability = 0.447)
```

```
#Find the probability x=17
```

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

```
## [1] 0.07532248
```

b. Find the probability that X is at most 13 ?

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

```
## [1] 0.451357
```

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

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

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

```r
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?

```r
sum(dbinom(16:19, size=31,prob=0.447,))
## [1] 0.2544758
diff(pbinom(c(19,15),size=31,prob=0.447, lower.tail = FALSE))
## [1] 0.2544758
```

title: "session1 assignment 3 probabiity"

author: "varatharajan"

date: "June 21, 2018"

output: word_document

```{r}

x~binom(size=31,prob=0.447)

#Find the probability x=17

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(dbinom(16:19, size=31,prob=0.447,))

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

```
x ~ binom(size = 31, prob = 0.447)
[1] 0.07532248
[1] 0.451357
[1] 0.8020339
[1] 0.406024
[1] 0.2544758
[1] 0.2544758
```

```

## R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.
```