作業(五) 商研一 A09741303 鄭守開

Answer these questions by R.

1. Make 1000 random variables from Bin(15, 0.4)

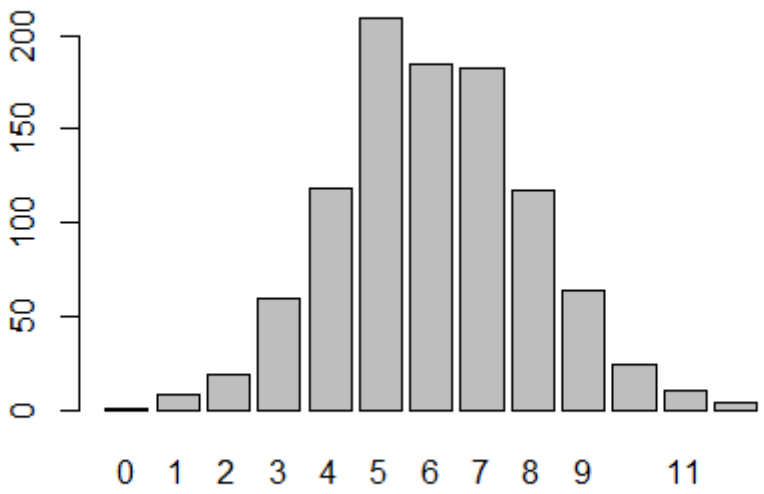
sample <- rbinom(1000,15,0.4)

sample

```
> # 1.Make 1000 random variables from Bin(15, 0.4)
> sample <- rbinom(1000,15,0.4)
> sample
   [1]  3  2  9  6  5  7  4  5  3  5  5  4  5  5  8  7  7 11
  [19]  5  6  5  8  8  6  6  9 12  4  7  7  4  7  7  6  8  7
  [37]  4  5  6  3  3  6  7  6  5  5  5  4 10  8  6  7  5  6
  [55]  7  9  5  5  5  7  5  9  4  9  6  9  5  8  7  5  5  7
  [73]  7  5  5  4  6  7  7  5  8  7  6  7  9 11  6  5  8  4
  [91]  8  4  6  8  7  6  9  6  7  5  1  5  9  9  4  7  9  8
 [109]  7  5  3  3  4  8  5  4  7  7  9  8  5  7  7  6  6  5
 [127]  6  8  8  8  8  6  6  7  6  7  5  5  7  3  5  5  8  9
 [145]  3  5  5  4  6  6  2  8 10  6  7  6  6  6  7  8  8  5
 [163]  6  9  4  2  7  8  5  6  6  4  6  3 10  6  6  7  3  7
 [181]  7  7  7  7  5  7  8  5  3  6  4  5  8 11  6  4  7  1
 [199]  5  4  9  6  6  9  4  6  5  4  4  8  7  5  7  5  5  7
 [217]  3  7  7  8  6  6  5  5 10  7  5  5  6  8  4  6  8  6
 [235]  3  6  8  4  4  3  4  2 10 11  4  6  3  8 11  7  4  5
 [253]  6  4  9  6  5  5  8  4  1  8  1  7  8  5  6  7  3  2
 [271]  9  6  5  6  6  9  6 10  8  6  7  5  6  8  4  4  6 11
 [289]  5  8  9  5  5  8  6  7  7  7  5  6  6  7  6  6  9  8
 [307]  4  5  6  7  5  4  4  6  9  6  9  3 10  6  8 10  6  4
 [325]  8  4  6  7  5  6  6  5  5  7  6  6  5  7  9  5  4  8
 [343] 10  3  4  4  4  6  5  3  5  4  7  9 10  8  4  7  6  5
 [361]  6  5  9  3  8  7  5  8  3  4  7  7  4  8  7  5  4  5
 [379] 11  7  7  7  3  8  7  7  6  8  7  4  7  7  6  5  7  5
 [397]  6  6  3  7  4  7  3  9  5  5  5  4  5  7  3  6  6  4
 [415]  6  9  5  3  7  6  8  5  3  3  6  5  4  3  7  6  3  6
 [433]  7  8  8  8  5  5  7  6  5  3  6  8 11  1  5  6  5  7
 [451]  7  7  5  4  5  7  7  6  6  7 12 10  7  9  9  5 10  5
 [469]  6  7  7  6  3  5  5  4  4  7  5  7  6  7  6  6  4  5
 [487]  4  5  7  6  6  7  7  6  5  7  8  5 10  5  7  2  9  4
 [505]  5  5 10  7  8  5  5  4  5  6  5  6  7  5  7  5  9  3
 [523]  6  7  4  4  9  4  2  8  4  5  8  5  7  8  8  8  5  6
 [541]  9  3  3  6  1 11  5  2  7  6  4  9  7  6  5  4  7  4
 [559]  8  7  5  3  6  7  0  6  8  6  7  6  5  7  4  4 10  5
 [577]  4  8  6  4  5  5  6  5  9  3  7  8  9  4  6  2 10  9
 [595]  5  6  6  7  5  3  6  5  1  9  4  5  6  6  5  7  3  5
 [613]  8  7  7  8  5  8  8  5 10  4  8  9  8  7  7  6  8  6
 [631]  6  5  4  5  5  7  7  4  3  4 10 10  5  7  7  7  4  5
 [649]  6  8  5  5  4  6  5  6  3  6  7  5  8  6  4  5  6  8
 [667]  7  5  5  7  5  7  7  7  7  8  8  6  6  7  9  9  6  7
 [685]  8  8  5  2  8  7  7  4  5  5  5  6  2  8  5  4  7  7
 [703]  7  7  6  4  5  3  8  5  5  4  5  7  5  3  7  9  6  8


 [703]  7  7  6  4  5  3  8  5  5  4  5  7  5  3  7  9  6  8
 [721]  5  4  9  5  4  9  5  4  4  7  6 12  5  6  9  2  6  9
 [739]  8  2  5  2  6  7  5  5  8  7  6 10  5  3  8  7  4  9
 [757]  3  5  5  3  4  8  7  8  5  8  7  5  6  4  9  6  8  5
 [775]  7  5  7  7  3  5  7  5  7  5  5  8 10  6  5  3  5  8
 [793]  8  3  6  6  8  4  4  4  6  5  6  8  9  2  5  7  5  6
 [811]  5  5  4  8  4  7  6  5  4  7  9  5  8  2  6  7  4  5
 [829]  4  6  3  8  5  8 11  6  6  9  2  6  5  8  8  5  8  6
 [847]  5  8  9  2  7  5  4  5  7  5  8  4  9  5  6  6  3  6
 [865]  4  6  6 10  8  8  7  3  6  4  5  8  7  6  6  6  5  5
 [883]  5  7  6  7  7  5  4  4  7  5  9  3  7  6  6  5  5  6
 [901]  6  7  4  9  5  6  8  4  3  7  6  8  6  4  7  7  9  4
 [919]  1  7  4  6  6  6 10  5  6  5  8  8  9  2  9  9  6  8
 [937]  7  4  5  4  3  5  6  4  4  9  5  6  7  8  6  3  6  7
 [955]  7  5  7  5  7  7  4  7  7  5  5  4  8  9  6  4  6  8
 [973]  7  8 10  7  6  9 12  6  7  8  7  9  4  5  5  8  7  3
 [991]  4  3  4  8  5  5  5  6  3  6
```

2. Draw a bar plot of your samples.
table<-table(sample)
barplot(table)



3. Calculate P(X=7)=0.1770837
dbinom(7,15,0.4)

4. What is the proportion of number 7 in your sample?
table(sample)
182/1000= 0.182

```
>
> # 2.Draw a bar plot of your samples
> table<-table(sample)
> barplot(table)
>
> # 3.Calculate P(X=7)
> dbinom(7,15,0.4)
[1] 0.1770837
>
> # 4. What is the proportion of number 7 in your sample
> table(sample)
sample
  0   1   2   3   4   5   6   7   8   9  10  11  12
  1   8  19  59 118 209 185 182 117  64  24  10   4
> 217/1000
[1] 0.217
> 182/1000
```