Binomial Distribution in RStudio

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Aim-To Create Binomial Distribution in R

Code-

```
n=10
p=1/6
dbinom(2,n,p)
pbinom(2,n,p)
rbinom(2,n,p)
x=choose(n, 2)*p^(2)*(1-p)^(n-2)
x
probs=dbinom(x=c(0:n),size = n,prob = p)
probs
probs=round(probs,4)
probs
x=0:n
x
```

```
y=data.frame(x,probs)
par(mar = rep(2, 4))
plot(y)
n=50
p=0.33
dbinom(2,n,p)
prob=dbinom(x=c(0:n),size=n,prob=p)
prob=round(prob,4)
x=0:n
z=data.frame(x,prob)
plot(z)
```

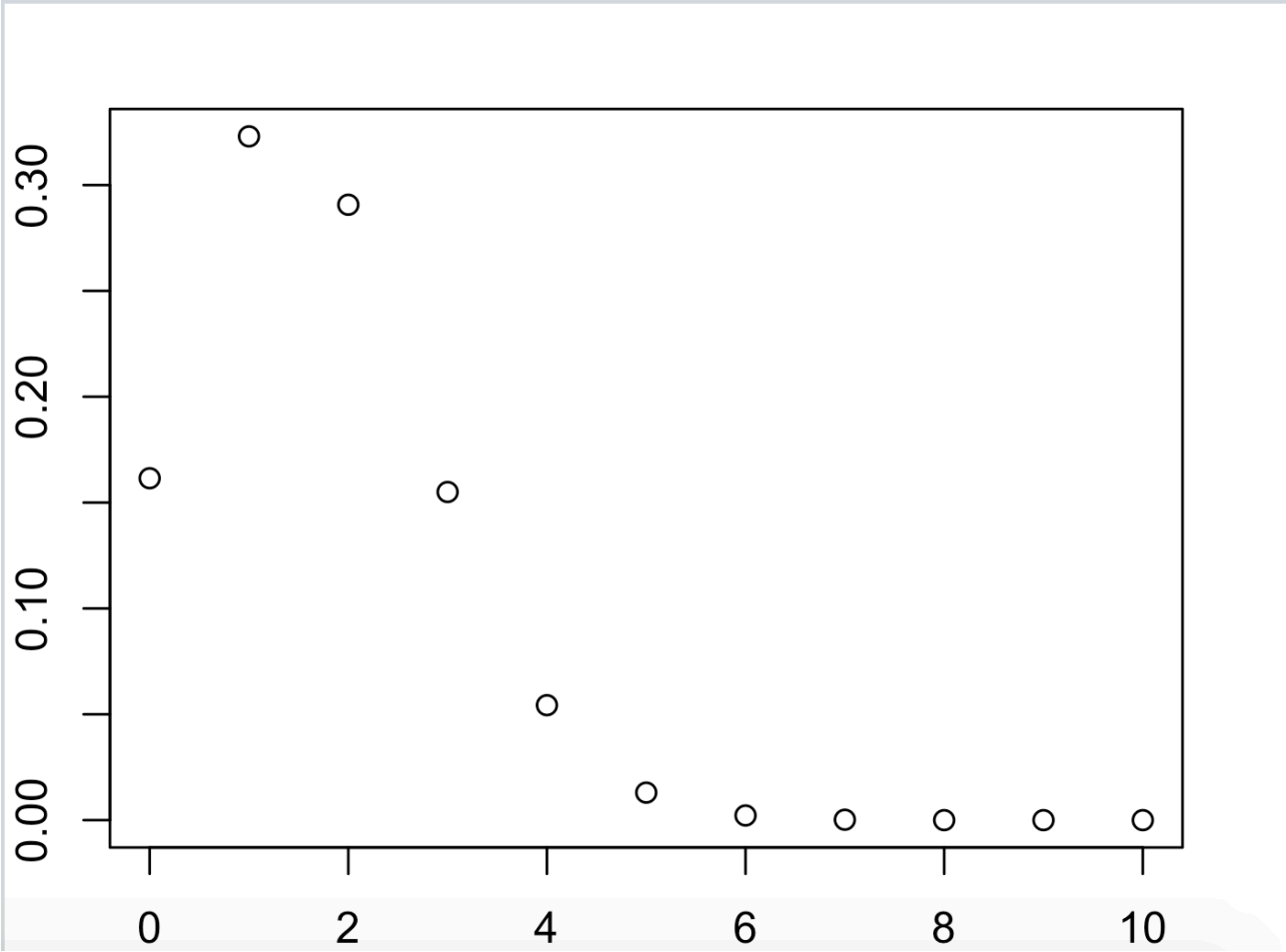
Output-

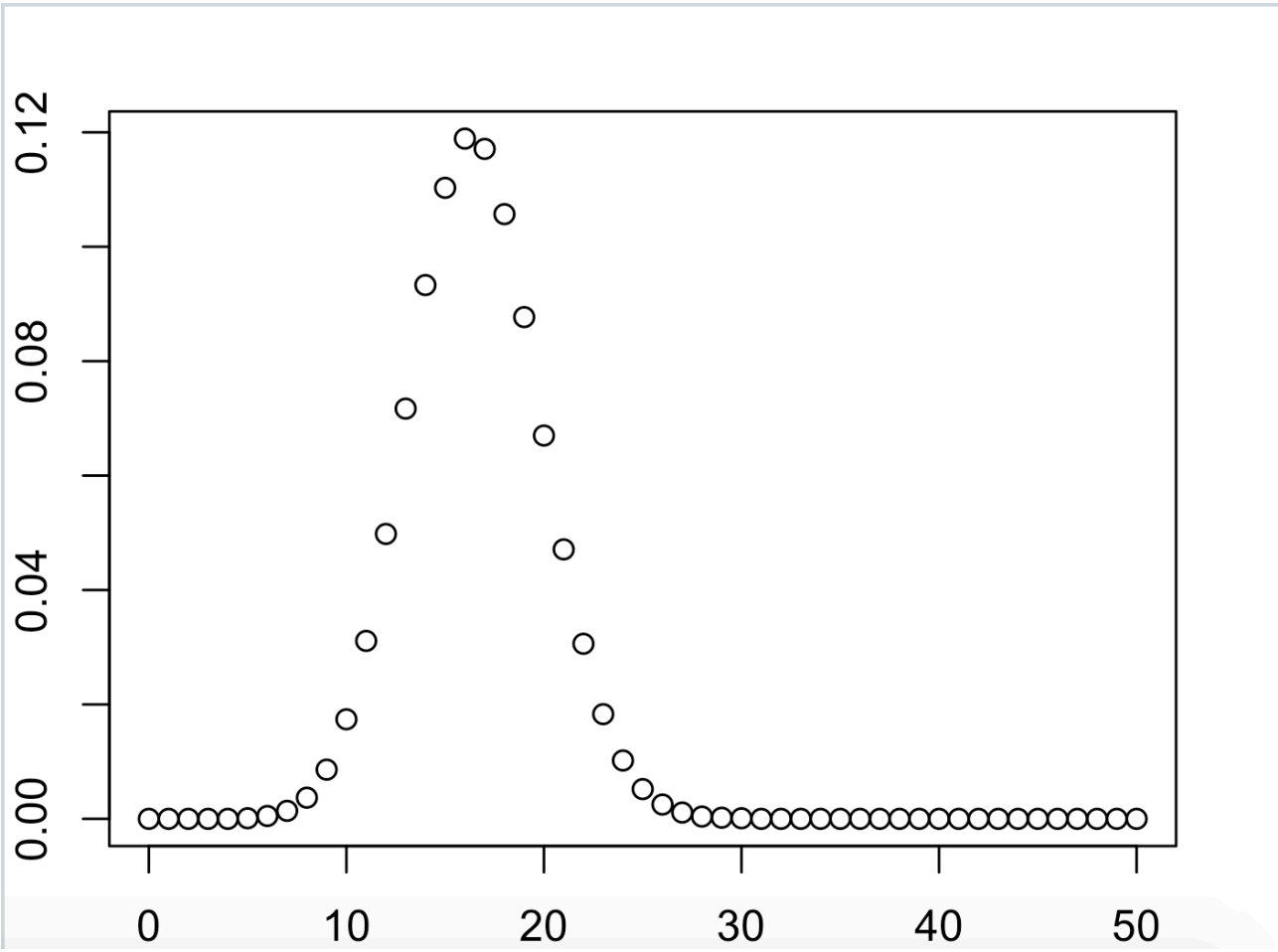
```
> n=10
> p=1/6
> dbinom(2,n,p)
[1] 0.29071
> pbinom(2,n,p)
[1] 0.7752268
> rbinom(2,n,p)
[1] 2 2
```

```
> x=choose(n, 2)*p^(2)*(1-p)^(n-2)

> x

[1] 0.29071

> probs=dbinom(x=c(0:n),size = n,prob = p)

> probs

 [1] 1.615056e-01 3.230112e-01 2.907100e-01
1.550454e-01 5.426588e-02 1.302381e-02

 [7] 2.170635e-03 2.480726e-04 1.860544e-05
8.269086e-07 1.653817e-08

> probs=round(probs,4)

> probs

 [1] 0.1615 0.3230 0.2907 0.1550 0.0543 0.0130
0.0022 0.0002 0.0000 0.0000 0.0000

> x=0:n

> x

 [1]  0  1  2  3  4  5  6  7  8  9 10

> y=data.frame(x,probs)

> par(mar = rep(2, 4))

> plot(y)

> n=50

> p=0.33

> dbinom(2,n,p)
```

[1] 5.980734e-07

```
> prob=dbinom(x=c(0:n),size=n,prob=p)
> prob=round(prob,4)
> x=0:n
> z=data.frame(x,prob)
> plot(z)
```




0.00
0.04
0.08
0.12
0
10
20
30
40
50