# Project_3_Stark.R

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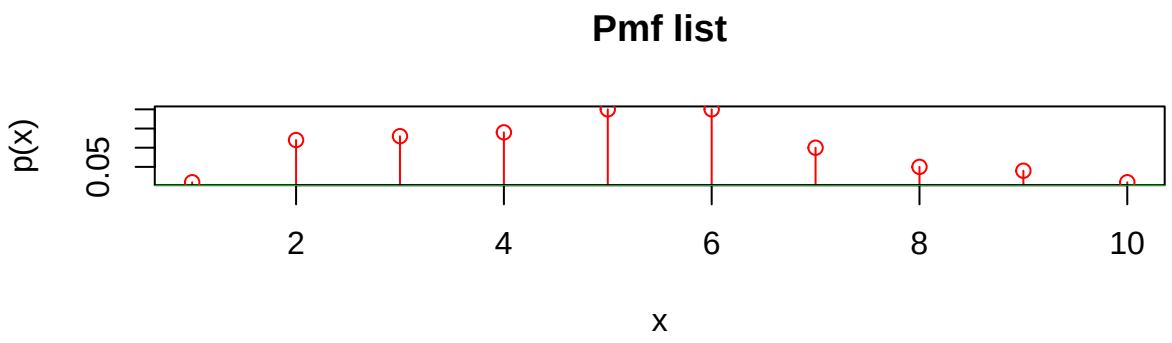
```
#Task 1
XX <- 1:10

PP <- c(.01,.12,.13,.14,.2,.2,.1,.05,.04,.01)

sum(PP)
```

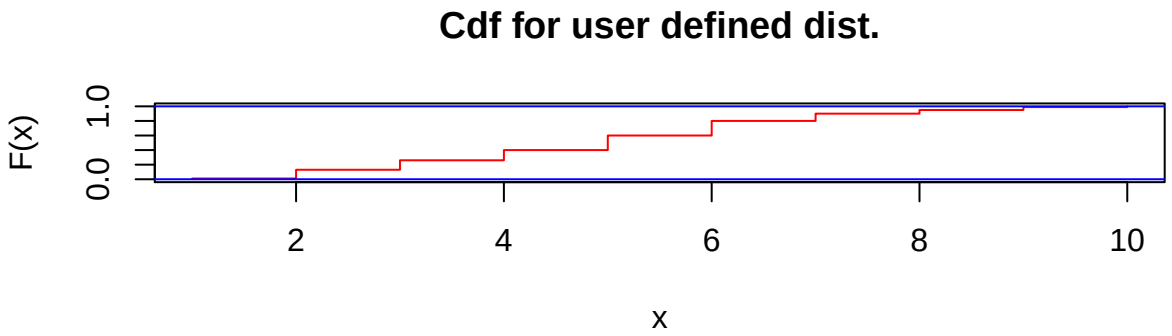
```
## [1] 1
```

```
require(graphics)
par(mfrow = c(2,1))

plot(XX,PP,type="h",col=2,main="Pmf list",xlab="x",ylab="p(x)")
points(XX,PP,col=2);abline(h=0,col=3)

QQ <- cumsum(PP)

c(XX, PP, QQ)
```

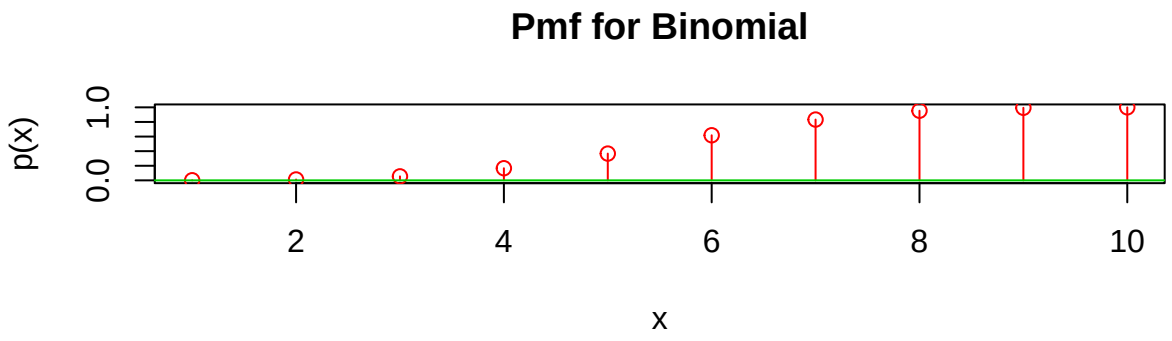
```
##  [1]  1.00  2.00  3.00  4.00  5.00  6.00  7.00  8.00  9.00 10.00  0.01
## [12]  0.12  0.13  0.14  0.20  0.20  0.10  0.05  0.04  0.01  0.01  0.13
## [23]  0.26  0.40  0.60  0.80  0.90  0.95  0.99  1.00
```

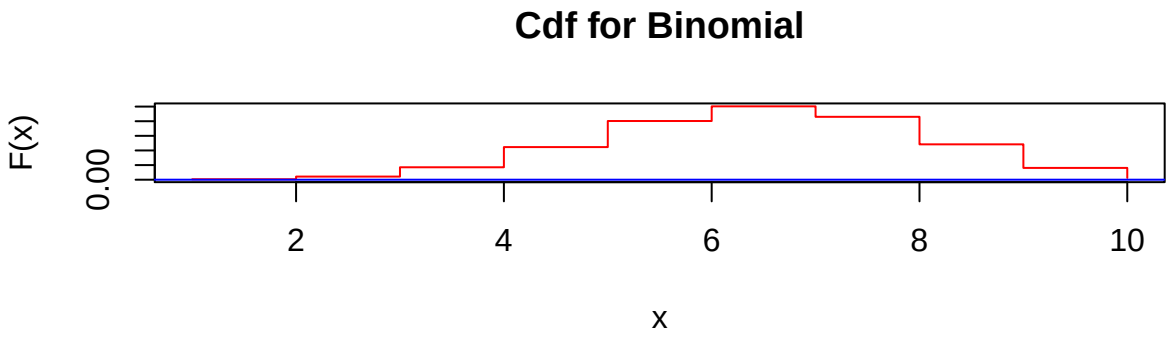
```
plot(c(1,XX),c(0,QQ),type="s", ylab="F(x)",col=2,xlab="x",main="Cdf for user defined dist.")
abline (h=0:1, col=4)
```



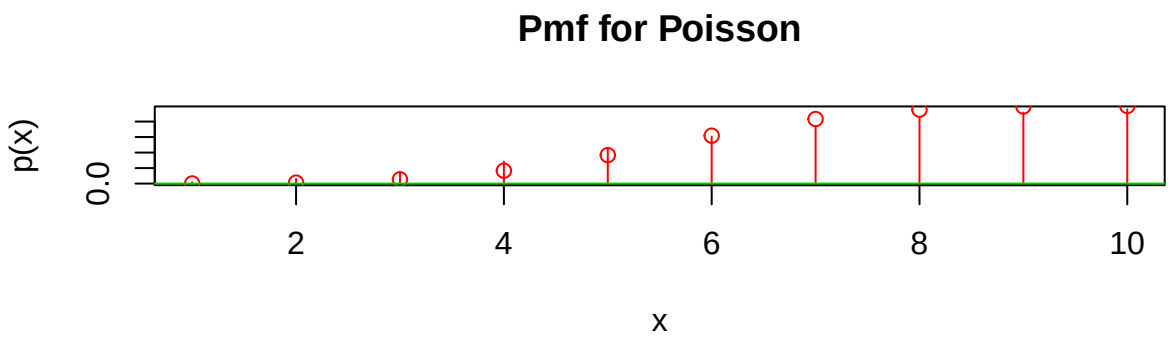



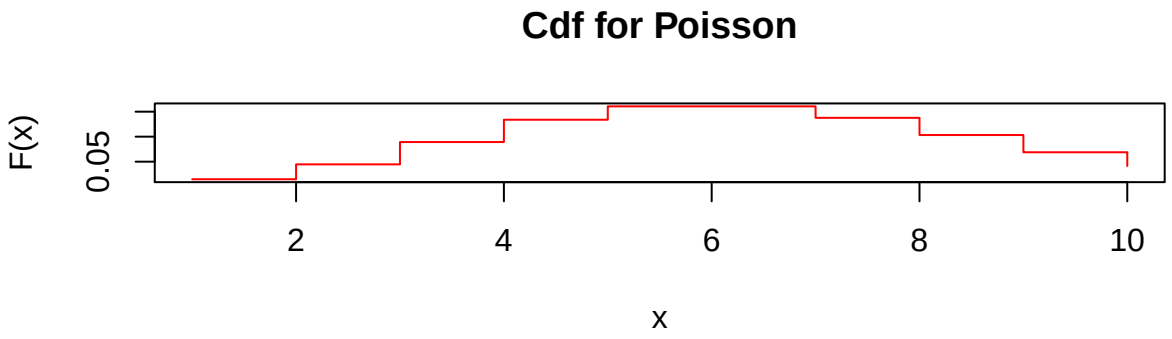

```r
#Task 2
Bin_pmf <- pbinom(XX, size = 10, prob = 0.6) # n stands for 'size'
Bin_cdf <- dbinom(XX, size = 10, prob = 0.6) # n stands for 'size'

require(graphics)
par(mfrow = c(2,1))

plot(XX,Bin_pmf,type="h",col=2,main="Pmf for Binomial",xlab="x",ylab="p(x)")
points(XX,Bin_pmf,col=2);abline(h=0,col=3)

plot(XX,Bin_cdf,type="s", ylab="F(x)",col=2,xlab="x",main="Cdf for Binomial")
abline (h=0:1, col=4)
```




```r
Pois_pmf <- ppois(XX, lambda = 6)
Pois_cdf <- dpois(XX, lambda = 6)

plot(XX,Pois_pmf,type="h",col=2,main="Pmf for Poisson",xlab="x",ylab="p(x)")
points(XX,Bin_pmf,col=2);abline(h=0,col=3)

plot(XX,Pois_cdf,type="s", ylab="F(x)",col=2,xlab="x",main="Cdf for Poisson")
abline (h=0:1, col=4)
```


Pmf for Poisson
p(x)
0.0
2
4
6
8
10
x


Cdf for Poisson
F(x)
0.05
2
4
6
8
10
x