**ASSIGNMENT 3**

**NAME -Rohit Rana**

**Roll Number= 102116012**

#Q1

x<-c(7,8,9)

dbinom(7,12,1/6)+dbinom(8,12,1/6)+dbinom(9,12,1/6) #way 1

pbinom(9,12,1/6,lower.tail = TRUE)-pbinom(6,12,1/6,lower.tail = TRUE) #way 2

#Q2

pnorm(100,mean=72,sd=15.2)-pnorm(84,mean=72,sd=15.2)

#Q3

dpois(0,5) #no car in a time interval

ppois(50,50)-ppois(47,50)

# dpois(48,50)+dpois(49,50)+dpois(50,50)

#Q4

dbinom(3,5,17/250)

#dhyper(3,17,233,5)

#Hypergeometric Distribution: Sampling without replacement

#Q5

#X follows binomial distribution with parameters n=31 and

#the probability of students using wiki is 0.447

#5b

#PMF

X=0:31

Y=dbinom(X,31,0.447)

plot(X,Y)

#5c

#CDF

Z=pbinom(X,31,0.447)

plot(X,Z)

#5d

mean(X)

sd(x)

var(X)