NAME:- Hyder Presswala
ROLL NO:- 16010122151
BATCH:- B-2
SY COMPS B
DATE:- 06/03/2024
Tutorial Number :- 04

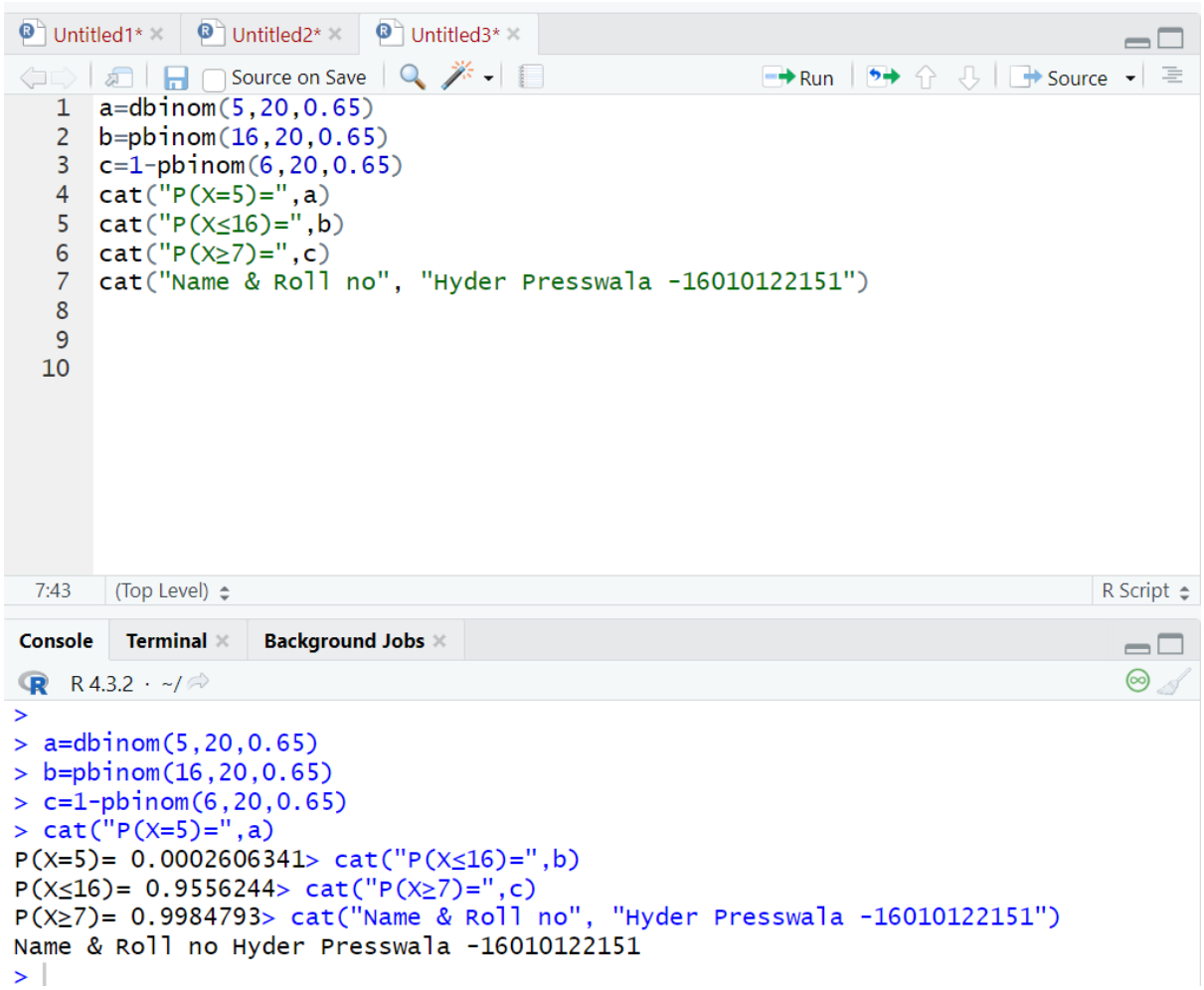
Q.1 If X is Binomial Distribution B(n,p) where n=20 p=0.65

Write R-program to evaluate and print (i) P(X=5) (ii) P(X≤16) (iii) P(X≥7)

Code:-

```
a=dbinom(5,20,0.65)

b=pbinom(16,20,0.65)

c=1-pbinom(6,20,0.65)

cat("P(X=5)=",a)

cat("P(X≤16)=",b)

cat("P(X≥7)=",c)

cat("Name & Roll no", "Hyder Presswala -16010122151")
```

Output:-



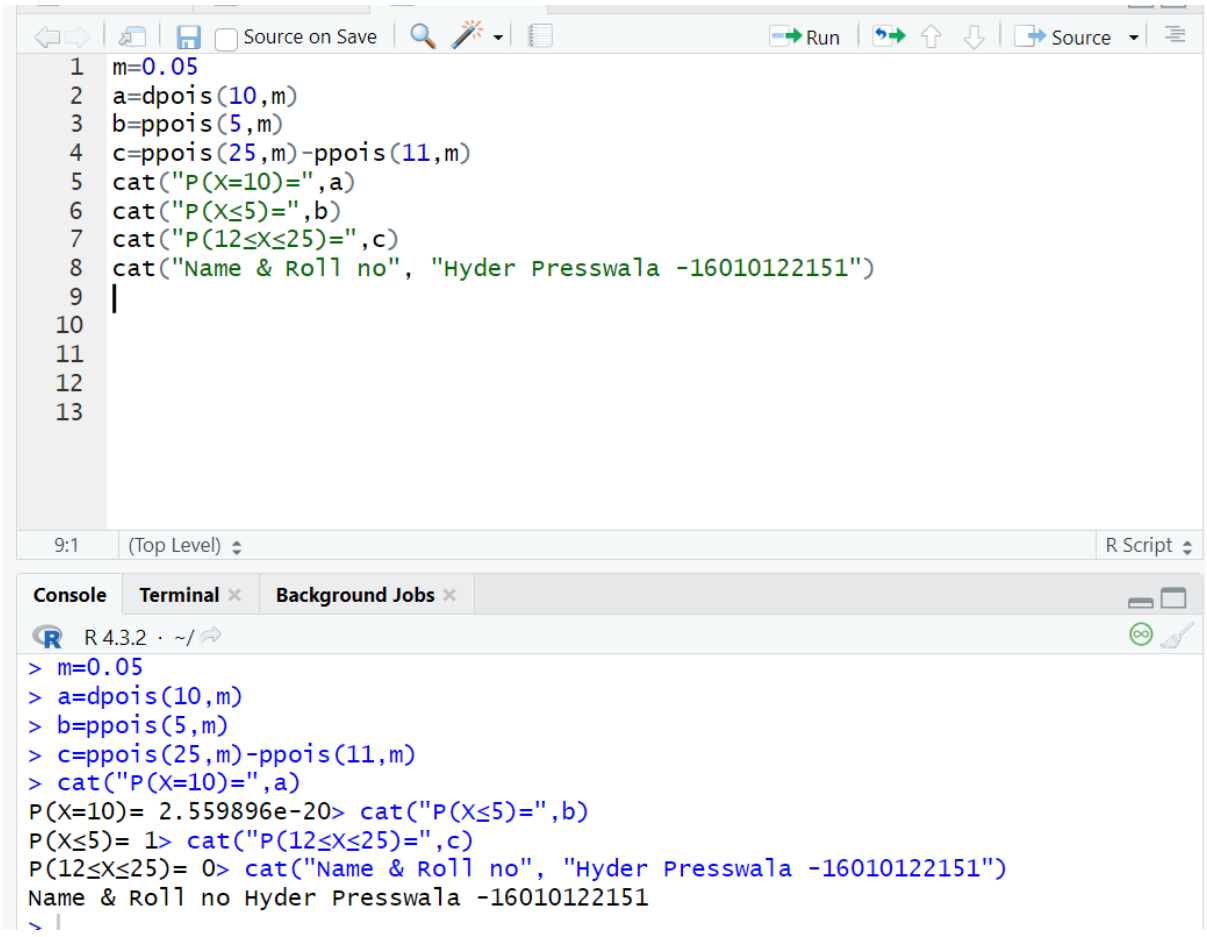
Q.2 If X is Poisson Distribution with mean 0.05 Write R-program to evaluate and print (i) P(X=10) (ii) P(X≤5) (iii) P(12≤X≤25)

Code:-

```
m=0.05
a=dpois(10,m)
b=ppois(5,m)
c=ppois(25,m)-ppois(11,m)
cat("P(X=10)=",a)
cat("P(X≤5)=",b)
cat("P(12≤X≤25)=",c)
```

cat("Name & Roll no", "Hyder Presswala -16010122151")

Output:-

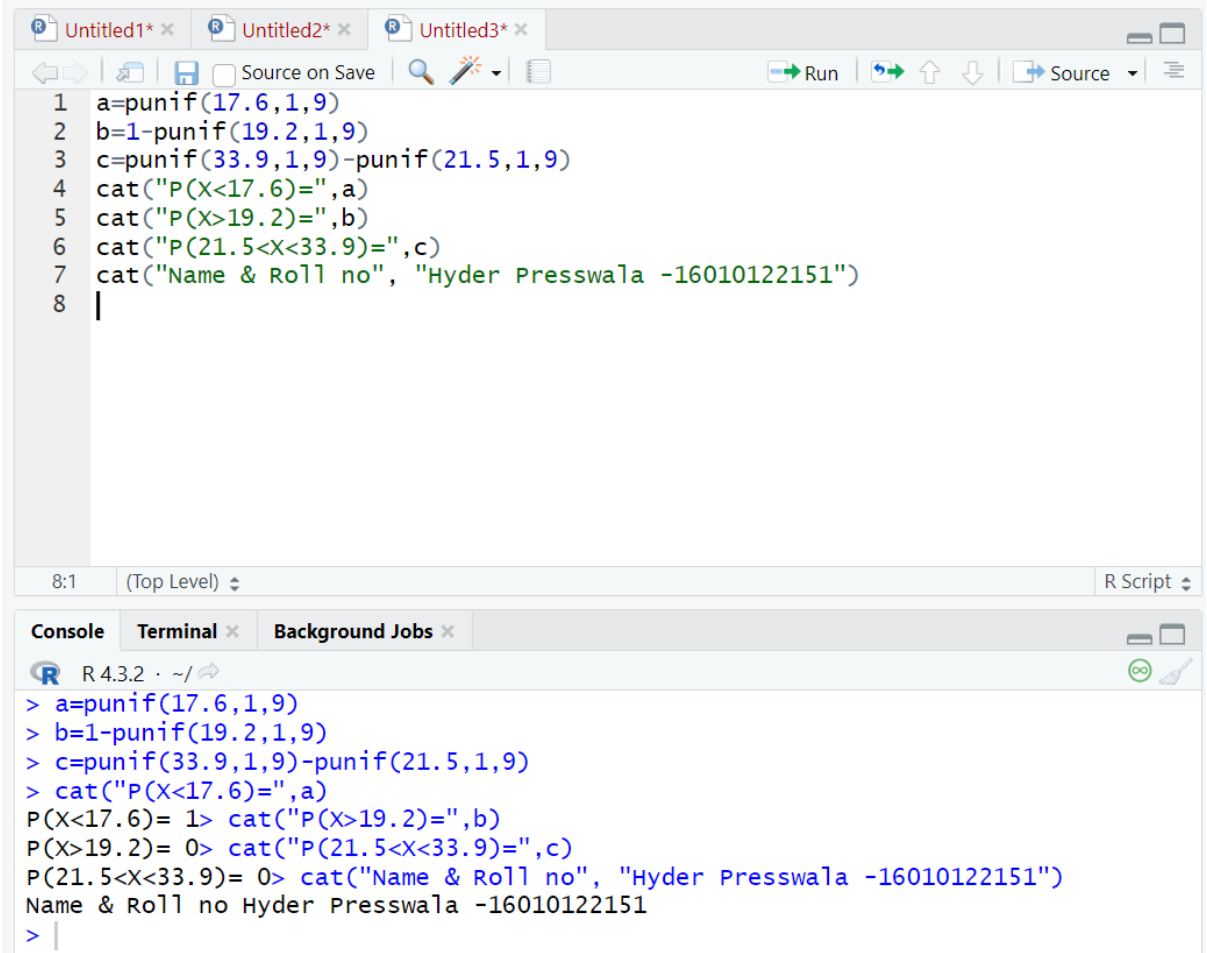


Q.3 **If X is Uniform Distribution over the range (1,35). Write R-program to evaluate andprint (i) P(X<17.6) (ii) P(X>19.2) (iii) P(21.5< X<33.9)**

Code:-

```
a=punif(17.6,1,9)

b=1-punif(19.2,1,9)

c=punif(33.9,1,9)-punif(21.5,1,9)

cat("P(X<17.6)=",a)

cat("P(X>19.2)=",b)

cat("P(21.5<X<33.9)=",c)

cat("Name & Roll no", "Hyder Presswala -16010122151")
```

Output:-



Q.4 If X is Exponential Distribution with mean 60. Write R-program to evaluate and print

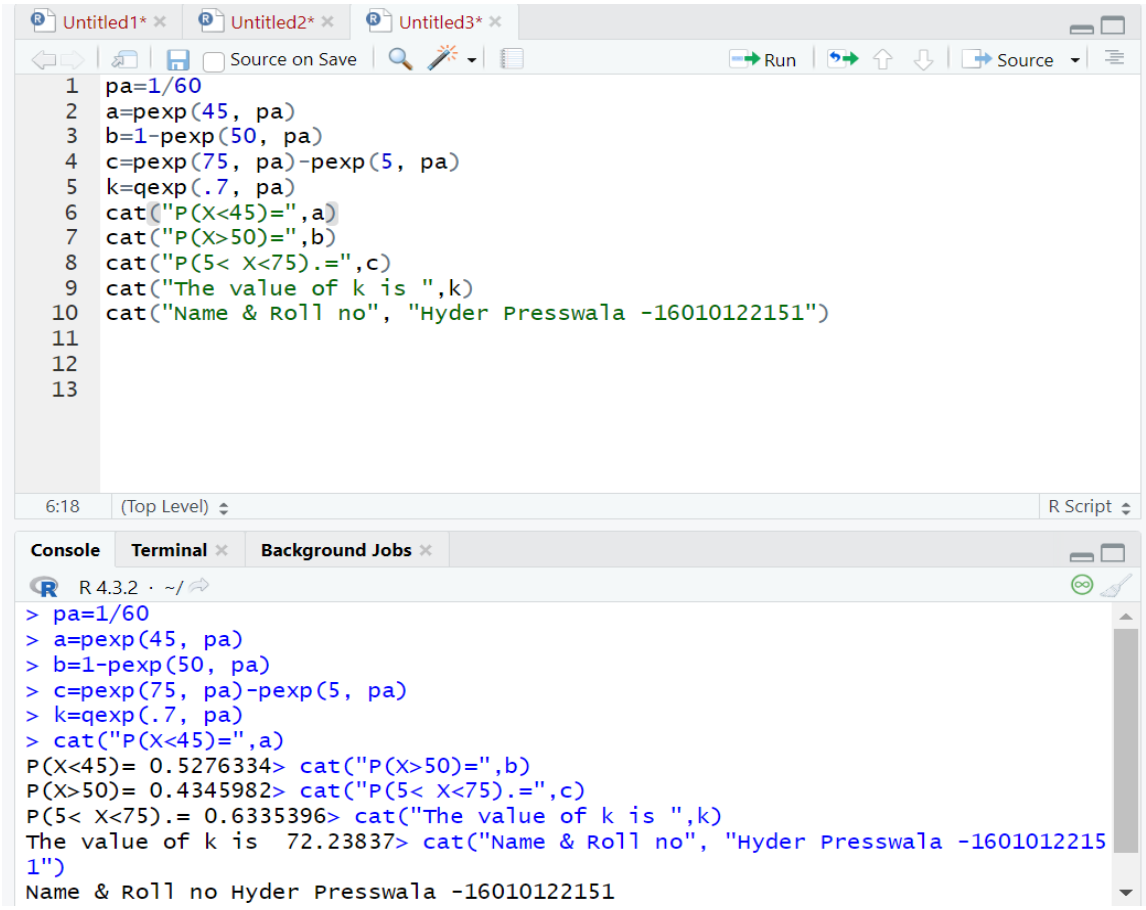
(i) P(X<45) (ii) P(X>50) (iii) P(5< X<75).

Find value of k such that P(X<k) = 0.7

Code:-

```
pa=1/60

a=pexp(45, pa)

b=1-pexp(50, pa)

c=pexp(75, pa)-pexp(5, pa)

k=qexp(.7, pa)

cat("P(X<45)=",a)

cat("P(X>50)=",b)

cat("P(5< X<75).=",c)

cat("The value of k is ",k)

cat("Name & Roll no", "Hyder Presswala -16010122151")
```

Output:-



Q.5 If X is Normal Distribution with mean 20 and standard deviation 5. Write R-program to evaluate and print (i) P(X<28) (ii) P(X>15) (iii) P(10< X<35).

Find value of k1 such that P(X<k1) = 0.3. Also find k2 such that P(X>k2) = 0.04

Code:-

```
a=pnorm(28,20,5)

b=1-pnorm(15,20,5)

c=pnorm(35,20,5)-pnorm(10,20,5)

k1=qnorm(.3,20,5)

k2=qnorm(.04,20,5)

cat("P(X<28) =",a)

cat("P(X>15) =",b)

cat("P(10< X<35)=",c)

cat("value of k1 such that P(X<k1) = 0.3 is ",k1)
```

cat("value of k2 such that P(X>k2) = 0.04 is",k2)

cat("Name & Roll no", "Hyder Presswala -16010122151")

Output:-