IT24104101

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PS Labsheet 07

Q1)

```r
#Question 01
#Uniform Distribution
#Here, random variable X has  follows distribution with a=0 and b=40.
#p(10<X<25)=p(x<=25)-p(X<=10)
punif(25,min=0,max=40,lower.tail = TRUE)-punif(10,min=0,max=40,lower.tail = TRUE)
```

```
> #Question 01
> #Uniform Distribution
> #Here, random variable X has  follows distribution with a=0 and b=40.
> #p(10<X<25)=p(x<=25)-p(X<=10)
> punif(25,min=0,max=40,lower.tail = TRUE)-punif(10,min=0,max=40,lower.tail = TRUE)
[1] 0.375
```

Q2)

```r
#Question 02
#Exponential Distribution
#Here, random variable X has exponential distribution with lamda=0.33
#p(X<=2)
pexp(2,rate = 1/3,lower.tail = TRUE)
```

```
> #Question 02
> #Exponential Distribution
> #Here, random variable X has exponential distribution with lamda=0.33
> #p(X<=2)
> pexp(2,rate = 1/3,lower.tail = TRUE)
[1] 0.4865829
```

Q3)

```r
#Question 03
#Normal Distribution
#Here, random variable X has normal distribution with mean=100 and standard deviation=15.

#Part 01
#p(X>130)
pnorm(130,mean=100,sd=15,lower.tail = FALSE)
#or
1-pnorm(130,mean=100,sd=15,lower.tail = TRUE)

```

```
> #Question 03
> #Normal Distribution
> #Here, random variable X has normal distribution with mean=100 and standard deviation=15.
>
> #Part 01
> #p(X>130)
> pnorm(130,mean=100,sd=15,lower.tail = FALSE)
[1] 0.02275013
> #or
> 1-pnorm(130,mean=100,sd=15,lower.tail = TRUE)
[1] 0.02275013
>
```

```
26  #Part 02
27  #p(X=95/100)=0.95
28  qnorm(0.95,mean=100,sd=15,lower.tail = TRUE)
```

```
> #Part 02
> #p(X=95/100)=0.95
> qnorm(0.95,mean=100,sd=15,lower.tail = TRUE)
[1] 124.6728
```