PS Lab 07

IT24104332

Exercise

1.

```
> ##Exercise
> ##Question 01
> #Uniform Distribution
> #Here, random variable X follows a uniform 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
```

2.

```
> ##Question 02
> #P(X<=2)
> pexp(2,rate = 0.33,lower.tail = TRUE)
[1] 0.4831487
```

3.

i.

```
> ##Question 03
> #Normal Distribution
> #P(X>=130) = 1-P(X<130)
> 1 - pnorm(130, mean = 100, sd=15,lower.tail = TRUE)
[1] 0.02275013
```

ii.

```
> #Part 02
> #b=0.95
> #P(x<b)
> qnorm(0.95,mean = 100,sd = 15,lower.tail = TRUE)
[1] 124.6728
```