Lab sheet 7

Exercise

Q1)

```
setwd("C:\\Users\\aa\\Desktop\\IT24100463 PS Lab7")
```

```
> setwd("C:\\Users\\aa\\Desktop\\IT24100463 PS Lab7")
```

```
#Q1
#Uniform Distribution
#Here,random variable X represent the number of minutes the train arrives
#It asked to find P(10<=X<=25)
#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)
```

```
> #Q1
> #Uniform Distribution
> #random variable X represent the number of minutes the train arrives
> #It asked to find P(10<=X<=25)
> #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)

```
#Q2
#Exponential Distribution
#Here,random variable X has exponentional distribution with lambda=1/3
#It asked to find P(X<=2)
pexp(2,rate = 1/3,lower.tail = TRUE)
```

```
> #Q2
> #Exponential Distribution
> #Here,random variable X has exponentional distribution with lambda=1/3
> #It asked to find P(X<=2)
> pexp(2,rate = 1/3,lower.tail = TRUE)
[1] 0.4865829
```

Q3)

Part 1

```r
#Q3
#Normal Distribution
#Here,random variable X has normal distribution with mean=100 and standard deviation=15

#part 1
#It asked to find (P>130)
qnorm(130,mean=100,sd=15,lower.tail = FALSE)
```

```
> #part 1
> #It asked to find P(X>130)
> qnorm(130,mean=100,sd=15,lower.tail = FALSE)
[1] NaN
```

```
Warning message:
In qnorm(130, mean = 100, sd = 15, lower.tail = FALSE) : NaNs produced
```

Part 2

```r
#Part 2
#It asked to find 95th percentile of IQ
qnorm(0.95,mean=100,sd=15,lower.tail = TRUE)
```

```
> #Part 2
> #It asked to find 95th percentile of IQ
> qnorm(0.95,mean=100,sd=15,lower.tail = TRUE)
[1] 124.6728
```