Sri Lanka Institute of Information Technology

Lab Submission
Lab sheet No 06

IT24104028

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IT2120 - Probability and Statistics
B.Sc. (Hons) in Information Technology

1) a)

X~Binomial (n=50, p=0.85)

```
setwd("C:\\Users\\CHAMA COMPUTERS\\OneDrive\\Desktop\\IT24104028")

#part 1
#i
#Binomial Distribution
```

```
> setwd("C:\\Users\\CHAMA COMPUTERS\\OneDrive\\Desktop\\IT24104028")
>
> #part 1
> #i
> #Binomial Distribution
>
```

b)

```
#ii
1- pbinom(47,50,0.85,lower.tail =TRUE)-pbinom(47,50,0.85,lower.tail =FALSE)
```

```
> #ii
> 1- pbinom(47,50,0.85,lower.tail =TRUE)-pbinom(47,50,0.85,lower.tail =FALSE)
[1] -1.561251e-17
```

2) a)

Let X = number of calls received in one hour

b)

If calls arrive independently with average rate 12 per hour, X~Poisson (λ=12)

c)

```
#part 2
#i X = the number of customer calls received in an hour.
#ii. poisson distribution
#iii
dpois(15,12)

```

```
> #part 2
> #i X = the number of customer calls received in an hour.
> #ii. poisson distribution
> #iii
> dpois(15,12)
[1] 0.07239112
```