Sri Lanka Institute of Information Technology

Lab Submission

Lab sheet No 06

IT24100826

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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\\IT24100826")

#part 1
#i
#Binomial Distribution


> setwd("C:\\Users\\CHAMA COMPUTERS\\OneDrive\\Desktop\\IT24100826")
```

b)

```
7  #ii
8  1- pbinom(47,50,0.85,lower.tail =TRUE)-pbinom(47,50,0.85,lower.tail =FALSE)
9
```

```
> #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)

```
10  #part 2
11  #i X = the number of customer calls received in an hour.
12  #ii. poisson distribution
13  #iii
14  dpois(15,12)
15
16
```

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