

Sri Lanka Institute of Information Technology



Lab Submission Lab sheet 06

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Probability and Statistics|IT2120

B.Sc. (Hons) in Information Technology

Exercise

1)

i. What is the distribution of X?

Binomial distribution

ii. What is the probability that at least 47 students passed the test?

#Exercise

```
#p(X>46) = 1-P(X<47) = 1- P(X<=46)
1 - pbinom(46, 50, 0.85, lower.tail = TRUE)
#lower tail = false(X>=47)
pbinom(46, 50, 0.85, lower.tail = FALSE)
```

```
> #p(X>46) = 1-P(X<47) = 1- P(X<=46)
> 1 - pbinom(46, 50, 0.85, lower.tail = TRUE)
[1] 0.04604658
> #lower tail = false(X>=47)
> pbinom(46, 50, 0.85, lower.tail = FALSE)
[1] 0.04604658
```

2)

i. What is the random variable (X) for the problem?

customer calls per hour

ii. What is the distribution of X?

#Poisson Distribution

iii. What is the probability that exactly 15 calls are received in an hour?

```
> dpois(15, 12)
[1] 0.07239112
```