

IT24100788 – Abeysinghe S.D

## Probability and Statistics | Lab Sheet 06 Exercise

```
IT24100788.R x
Source on Save
Run
Source

1 setwd("C:\\Users\\User\\Desktop\\IT24100788_PS_LAB_6")
2 # Exercise
3 #(01)
4 n <- 50
5 p <- 0.85
6
7 #(i) Distribution of X?
8 X ~ Binomial(n=50, p=0.85)
9
10 #(ii) Probability that at least 47 students passed the test?
11 #  $P(X \geq 47) = 1 - P(X \leq 46)$ 
12
13 prob_at_least_47 <- 1 - pbinom(46, size = n, prob = p)
14 prob_at_least_47
15
16 #(02)
17 #(i) Random variable (X) = # of calls received in an hour
18
19 #(ii) Distribution of X
20 X ~ Poisson(lambda = 12)
21
22 #(iii) Probability that exactly 15 calls are received in an hour?
23 lambda <- 12
24 prob_15 <- dpois(15, lambda = lambda)
25 prob_15
26
27
28:1 (Top Level) R Script
```


```
Console Terminal Background Jobs
R 4.5.1 · C:/Users/User/Desktop/IT24100788_PS_LAB_6/
> setwd("C:\\Users\\User\\Desktop\\IT24100788_PS_LAB_6")
> # Exercise
> #(01)
> n <- 50
> p <- 0.85
> #(i) Distribution of X?
> X ~ Binomial(n=50, p=0.85)
X ~ Binomial(n = 50, p = 0.85)
> prob_at_least_47 <- 1 - pbinom(46, size = n, prob = p)
> prob_at_least_47
[1] 0.04604658
> #(ii) Distribution of X
> X ~ Poisson(lambda = 12)
X ~ Poisson(lambda = 12)
> #(iii) Probability that exactly 15 calls are received in an hour?
> lambda <- 12
> prob_15 <- dpois(15, lambda = lambda)
> prob_15
[1] 0.07239112
>
```


Environment


History

Connections


Tutorial









Import Dataset ▾




132 MiB ▾





R ▾



Global Environment ▾

 List ▾





Values

lambda	12
n	50
p	0.85
prob_15	0.0723911201466387
prob_at_least_47	0.0460465788923019