Probability and Statistics – IT2120

Lab 06

IT24104099

```r
# Question 1
n <- 50
p <- 0.85

# i. Distribution
print(" X ~ Binomial(n = 50, p = 0.85)")

# ii. Probability at least 47 students pass
pbinom(46, size = n, prob = p, lower.tail = FALSE)
```

22:1   (Top Level)

Console   Terminal ×   Background Jobs ×

R ▾ R 4.5.1 · ~/

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> # Question 1
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> print(" X ~ Binomial(n = 50, p = 0.85)")
[1] " X ~ Binomial(n = 50, p = 0.85)"
> # ii. Probability at least 47 students pass
> pbinom(46, size = n, prob = p, lower.tail = FALSE)
[1] 0.04604658
```

```
10
11   # Question 2
12   lambda <- 12
13
14   # i. Random variable
15   print(" X = number of calls received in one hour")
16
17   # ii. Distribution
18   print("X ~ Poisson(lambda = 12)")
19
20   # iii. Probability that exactly 15 calls are received
21   dpois(15, lambda = lambda)
22   |
```

22:1   (Top Level) ⬍

Console   **Terminal** ×   **Background Jobs** ×

R ▾ R 4.5.1 · ~/ ⇱

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> # Question 2
> lambda <- 12
> # i. Random variable
> print(" X = number of calls received in one hour")
[1] " X = number of calls received in one hour"
> # ii. Distribution
> print("X ~ Poisson(lambda = 12)")
[1] "X ~ Poisson(lambda = 12)"
> # iii. Probability that exactly 15 calls are received
> dpois(15, lambda = lambda)
[1] 0.07239112
> |
```