Sri Lanka Institute of Information Technology

Lab Submission
Lab sheet No 06

IT24100936

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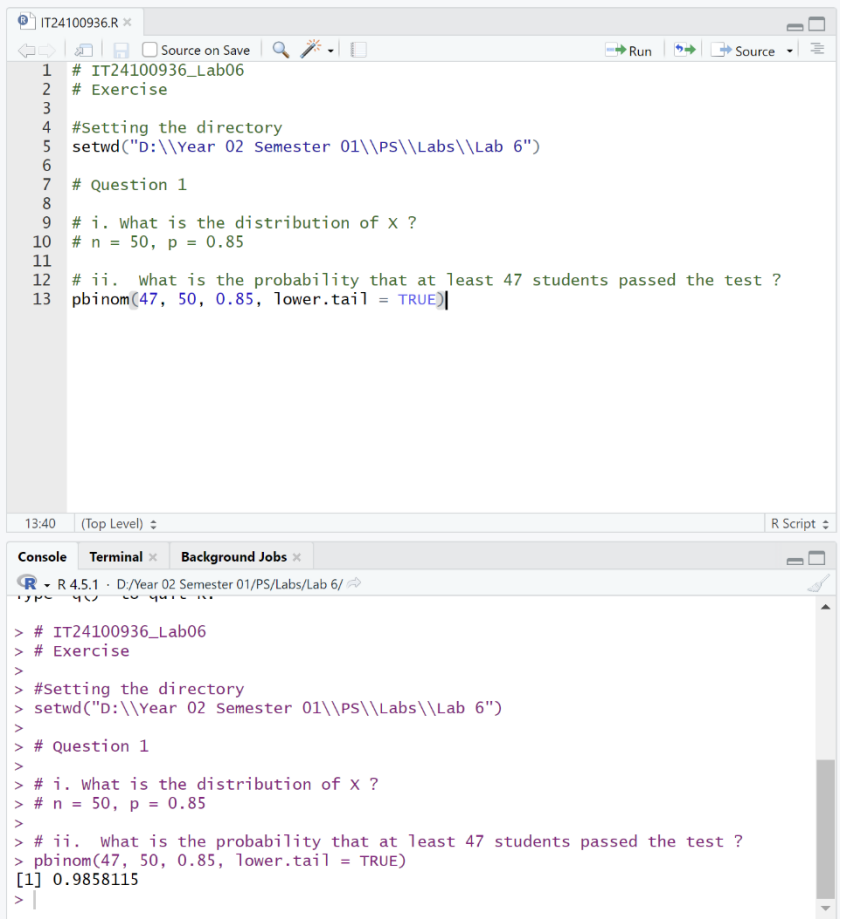
Probability and Statistics | IT2120

B.Sc. (Hons) in Information Technology

Exercise



```
# IT24100936_Lab06
# Exercise

#Setting the directory
setwd("D:\\Year 02 Semester 01\\PS\\Labs\\Lab 6")

# Question 1

# i. What is the distribution of X ?
# n = 50, p = 0.85

# ii.  What is the probability that at least 47 students passed the test ?
pbinom(47, 50, 0.85, lower.tail = TRUE)
```

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> # Exercise
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> # Question 1
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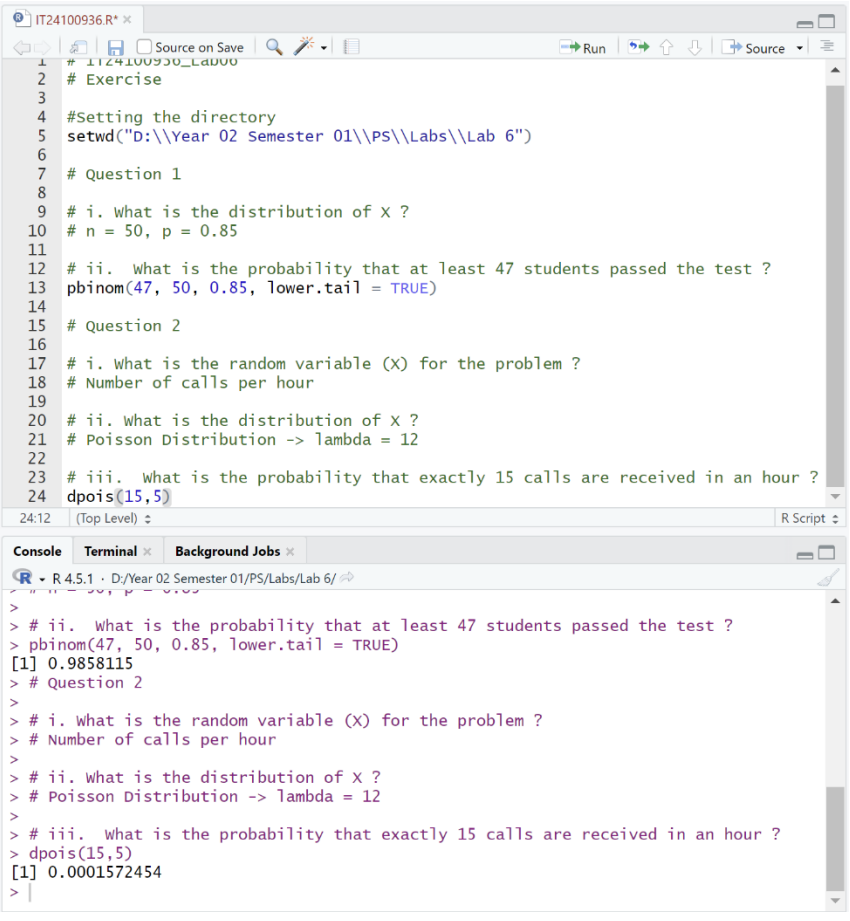
> # i. What is the distribution of X ?
> # n = 50, p = 0.85
>
> # ii.  What is the probability that at least 47 students passed the test ?
> pbinom(47, 50, 0.85, lower.tail = TRUE)
[1] 0.9858115
>
```



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# n = 50, p = 0.85

# ii.  What is the probability that at least 47 students passed the test ?
pbinom(47, 50, 0.85, lower.tail = TRUE)

# Question 2

# i. What is the random variable (X) for the problem ?
# Number of calls per hour

# ii. What is the distribution of X ?
# Poisson Distribution -> lambda = 12

# iii.  What is the probability that exactly 15 calls are received in an hour ?
dpois(15,5)
```

```
>
> # ii.  What is the probability that at least 47 students passed the test ?
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[1] 0.9858115
> # Question 2
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> # i. What is the random variable (X) for the problem ?
> # Number of calls per hour
>
> # ii. What is the distribution of X ?
> # Poisson Distribution -> lambda = 12
>
> # iii.  What is the probability that exactly 15 calls are received in an hour ?
> dpois(15,5)
[1] 0.0001572454
>
```