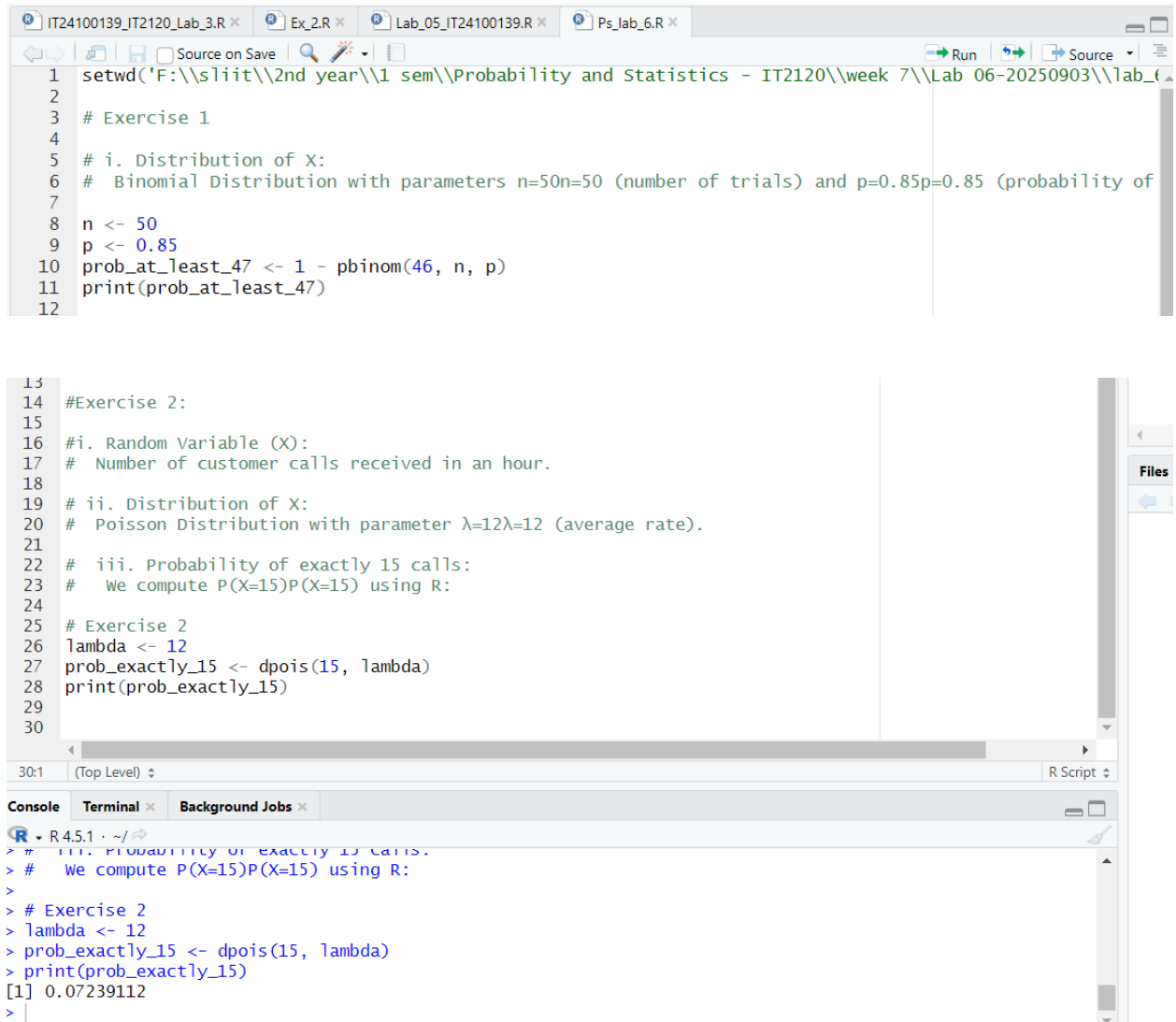


PS_Lab_6(IT24100139)



```
1 setwd('F:\\sliit\\2nd year\\1 sem\\Probability and Statistics - IT2120\\week 7\\Lab 06-20250903\\lab_6')
2
3 # Exercise 1
4
5 # i. Distribution of X:
6 # Binomial Distribution with parameters n=50n=50 (number of trials) and p=0.85p=0.85 (probability of
7
8 n <- 50
9 p <- 0.85
10 prob_at_least_47 <- 1 - pbinom(46, n, p)
11 print(prob_at_least_47)
12
13
14 #Exercise 2:
15
16 #i. Random Variable (X):
17 # Number of customer calls received in an hour.
18
19 # ii. Distribution of X:
20 # Poisson Distribution with parameter  $\lambda=12$  $\lambda=12$  (average rate).
21
22 # iii. Probability of exactly 15 calls:
23 # We compute  $P(X=15)P(X=15)$  using R:
24
25 # Exercise 2
26 lambda <- 12
27 prob_exactly_15 <- dpois(15, lambda)
28 print(prob_exactly_15)
29
30
```

30:1 (Top Level) R Script

Console Terminal Background Jobs

```
R R4.5.1 ~\
> # iii. Probability of exactly 15 calls.
> # We compute  $P(X=15)P(X=15)$  using R:
>
> # Exercise 2
> lambda <- 12
> prob_exactly_15 <- dpois(15, lambda)
> print(prob_exactly_15)
[1] 0.07239112
>
```