IT24100886

IT2120 - Probability and Statistics
LabSheet 06

Script

Untitled1*

Source on Save | Run | Source

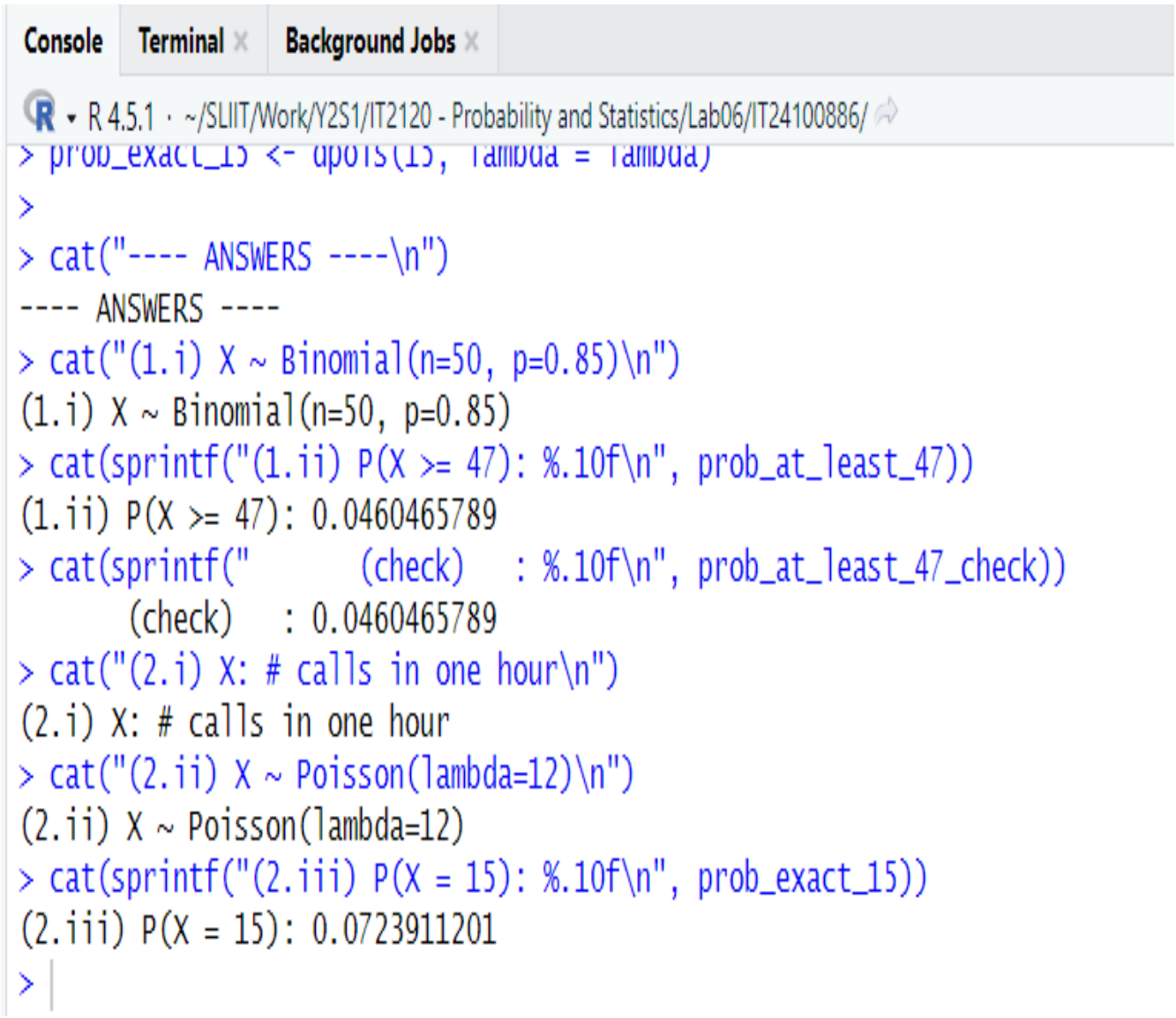
```
setwd('C:\\Users\\hasit\\OneDrive\\Documents\\SLIIT\\Work\\Y2S1\\IT2120 - Probability and Stati
getwd()

n <- 50; p <- 0.85
prob_at_least_47 <- 1 - pbinom(46, size = n, prob = p)
prob_at_least_47_check <- sum(dbinom(47:50, size = n, prob = p))

lambda <- 12
prob_exact_15 <- dpois(15, lambda = lambda)

cat("---- ANSWERS ----\n")
cat("(1.i) X ~ Binomial(n=50, p=0.85)\n")
cat(sprintf("(1.ii) P(X >= 47): %.10f\n", prob_at_least_47))
cat(sprintf("       (check)   : %.10f\n", prob_at_least_47_check))
cat("(2.i) X: # calls in one hour\n")
cat("(2.ii) X ~ Poisson(lambda=12)\n")
cat(sprintf("(2.iii) P(X = 15): %.10f\n", prob_exact_15))
```

Console


Console
Terminal
Background Jobs
R 4.5.1 · ~/SLIIT/Work/Y2S1/IT2120 - Probability and Statistics/Lab06/IT24100886/
> prob_exact_15 <- dpois(15, lambda = lambda)
>
> cat("---- ANSWERS ----\n")
---- ANSWERS ----
> cat("(1.i) X ~ Binomial(n=50, p=0.85)\n")
(1.i) X ~ Binomial(n=50, p=0.85)
> cat(sprintf("(1.ii) P(X >= 47): %.10f\n", prob_at_least_47))
(1.ii) P(X >= 47): 0.0460465789
> cat(sprintf("   (check)   : %.10f\n", prob_at_least_47_check))
       (check)   : 0.0460465789
> cat("(2.i) X: # calls in one hour\n")
(2.i) X: # calls in one hour
> cat("(2.ii) X ~ Poisson(lambda=12)\n")
(2.ii) X ~ Poisson(lambda=12)
> cat(sprintf("(2.iii) P(X = 15): %.10f\n", prob_exact_15))
(2.iii) P(X = 15): 0.0723911201
>