IT24100788.R

```r
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)

#(ii) Probability that at least 47 students passed the test?
# P(X >= 47) = 1 - P(X <= 46)

prob_at_least_47 <- 1 - pbinom(46, size = n, prob = p)
prob_at_least_47

#(02)
#(i) Random variable (X) = # of calls received in an hour

#(ii) Distribution of X
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
```

```
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> # 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
>
```

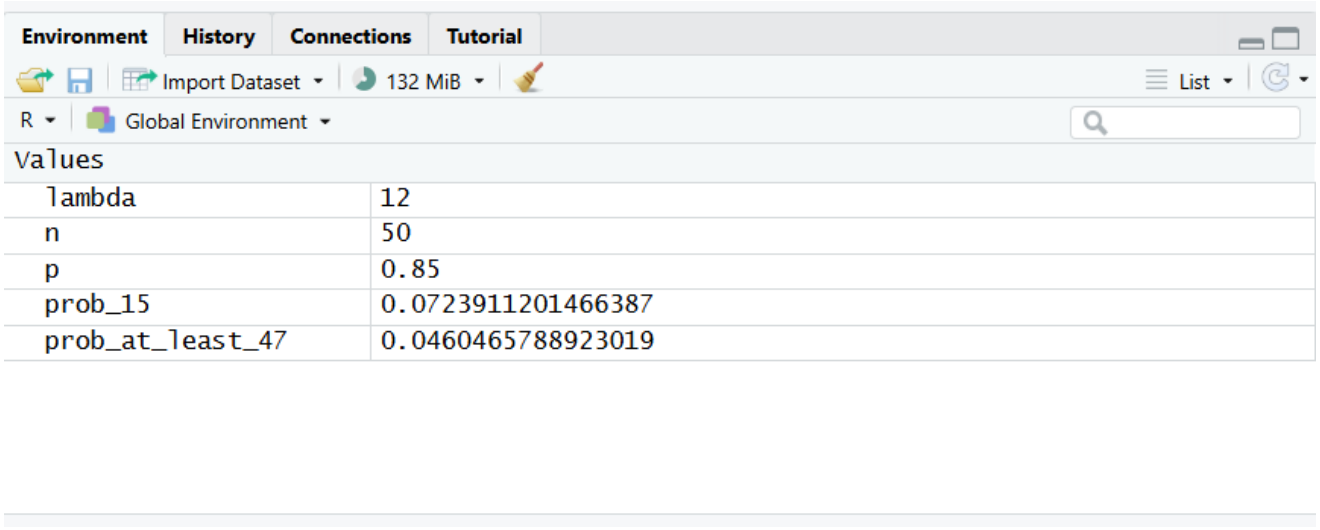
Environment
History
Connections
Tutorial
Import Dataset
132 MiB
List
R
Global Environment
Values
lambda 12
n 50
p 0.85
prob_15 0.0723911201466387
prob_at_least_47 0.0460465788923019