

## PS-Lab 07

IT24102555

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IT24102555-Lab07.R
Source on Save
Run Source
1 setwd("D:\\SLIIT\\Y2S1\\PS\\week 9\\IT24102555_Lab07")
2
3 #Q1) Uniform distribution
4 prob_q1 <- (25 - 10) / 40
5 prob_q1
6
7 #Q2 Exponential distribution
8 lambda <- 1/3
9 prob_q2 <- pexp(2, rate=lambda) # P(X ≤ 2)
10 prob_q2
11
12 #Q3 i) Normal distribution - P(X > 130)
13 prob_q3_i <- 1 - pnorm(130, mean=100, sd=15)
14 prob_q3_i
15
16 #Q3 ii) Normal distribution - 95th percentile
17 q3_ii <- qnorm(0.95, mean=100, sd=15)
18 q3_ii
19
```

```
Console Terminal Background Jobs
R 4.5.1 · D:/SLIIT/Y2S1/PS/week 9/IT24102555_Lab07/
> setwd("D:\\SLIIT\\Y2S1\\PS\\week 9\\IT24102555_Lab07")
> #Q1) Uniform distribution
> prob_q1 <- (25 - 10) / 40
> prob_q1
[1] 0.375
> #Q2 Exponential distribution
> lambda <- 1/3
> prob_q2 <- pexp(2, rate=lambda) # P(X ≤ 2)
> prob_q2
[1] 0.4865829
> #Q3 i) Normal distribution - P(X > 130)
> prob_q3_i <- 1 - pnorm(130, mean=100, sd=15)
> prob_q3_i
[1] 0.02275013
> #Q3 ii) Normal distribution - 95th percentile
> q3_ii <- qnorm(0.95, mean=100, sd=15)
> q3_ii
[1] 124.6728
>
```