IT24100788 – Abeysinghe S.D

Probability and Statistics | Lab Sheet 07 Exercise

IT24100788_Lab_7.R

```
1  setwd("C:\\Users\\User\\Desktop\\IT24100788_PS LAB 7")
2
3  #Exercise
4  #Q1) Uniform distribution
5  prob_q1 <- (25 - 10) / 40
6  prob_q1
7
8  #Q2 Exponential distribution
9  lambda <- 1/3
10 prob_q2 <- pexp(2, rate=lambda)   # P(X ≤ 2)
11 prob_q2
12
13 #Q3 i) Normal distribution - P(X > 130)
14 prob_q3_i <- 1 - pnorm(130, mean=100, sd=15)
15 prob_q3_i
16
17 #Q3 ii) Normal distribution - 95th percentile
18 q3_ii <- qnorm(0.95, mean=100, sd=15)
19 q3_ii
```

20:1 (Top Level) R Script

Console Terminal Background Jobs

R 4.5.1 · C:/Users/User/Desktop/IT24100788_PS LAB 7/

```
> setwd("C:\\Users\\User\\Desktop\\IT24100788_PS LAB 7")
> #Exercise
> #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
```

Environment History Connections Tutorial

Import Dataset 117 MiB List

R Global Environment

Values

lambda	0.333333333333333
prob_q1	0.375
prob_q2	0.486582880967408
prob_q3_i	0.0227501319481792
q3_ii	124.672804404272