

IT24101571

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Lab Sheet 7

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1 setwd("C:\\Users\\ASUS\\OneDrive\\Desktop\\IT24101571_PS_LAB07")
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 |
21
```

```
> #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
>
```