

IT24100733

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PS_lab07

```
setwd("C:\\Users\\user\\Desktop\\IT24100733")  
getwd()
```

#Exercise

#Q1) Uniform distribution

```
prob_q1 <- (25 - 10) / 40
```

```
prob_q1
```

#Q2 Exponential distribution

```
lambda <- 1/3
```

```
prob_q2 <- pexp(2, rate=lambda) #  $P(X \leq 2)$ 
```

```
prob_q2
```

#Q3 i) Normal distribution - $P(X > 130)$

```
prob_q3_i <- 1 - pnorm(130, mean=100, sd=15)
```

```
prob_q3_i
```

#Q3 ii) Normal distribution - 95th percentile

```
q3_ii <- qnorm(0.95, mean=100, sd=15)
```

```
q3_ii
```

```
> setwd("C:\\Users\\user\\Desktop\\IT24100733")
```

```
> getwd()
```

```
[1] "C:/Users/user/Desktop/IT24100733"
```

```
> prob_q1 <- (25 - 10) / 40
```

```
> prob_q1
```

```
[1] 0.375
```

```
> lambda <- 1/3
```

```
> prob_q2 <- pexp(2, rate=lambda) #  $P(X \leq 2)$ 
```

```
> prob_q2
```

```
[1] 0.4865829
```

```
> prob_q3_i <- 1 - pnorm(130, mean=100, sd=15)
```

```
> prob_q3_i
```

```
[1] 0.02275013
```

```
> q3_ii <- qnorm(0.95, mean=100, sd=15)
```

```
> q3_ii
```

```
[1] 124.6728
```

```
> |
```