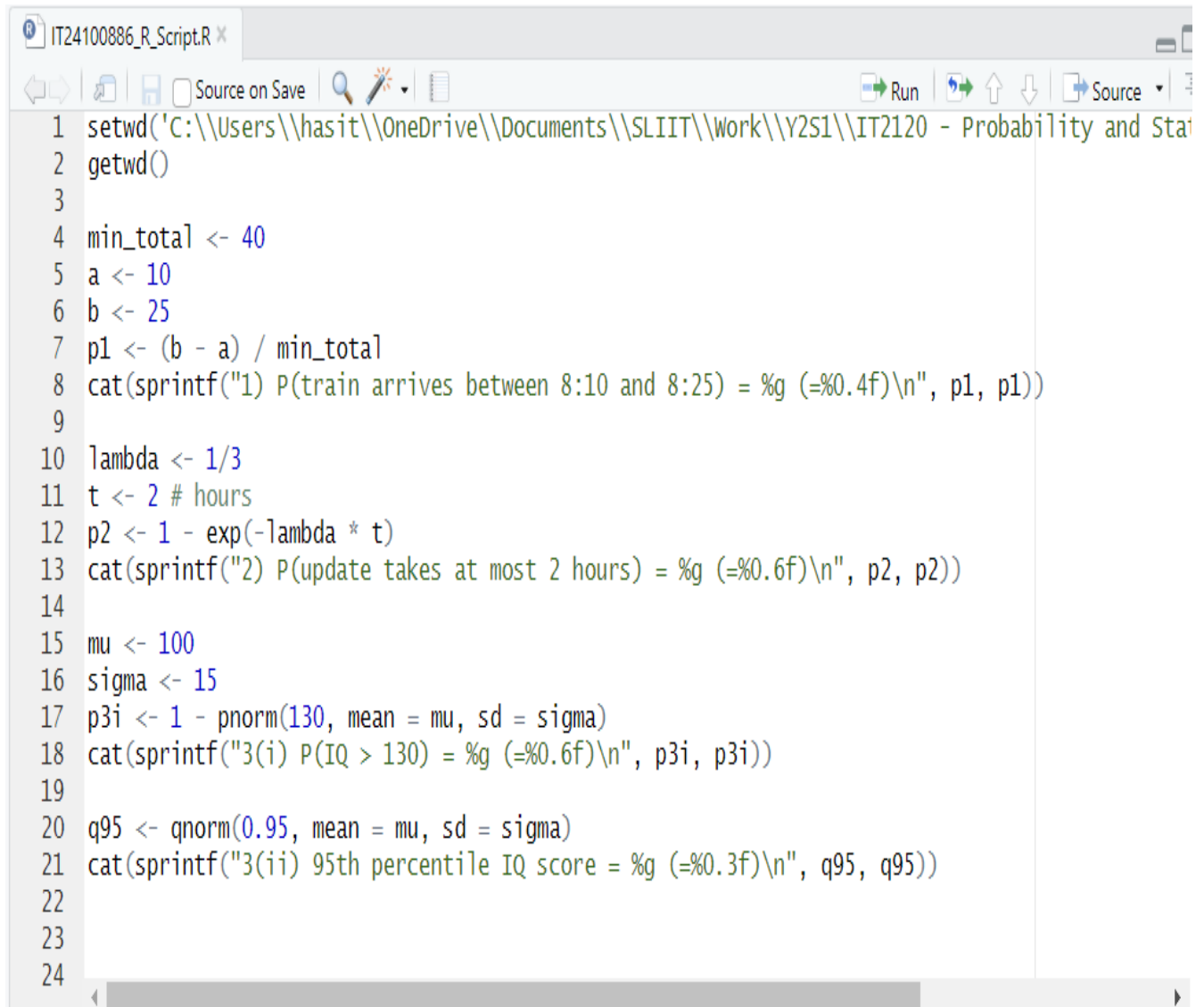


IT24100886

IT2120 - Probability and Statistics
LabSheet 07

Script



```
1 setwd('C:\\Users\\hasit\\OneDrive\\Documents\\SLIIT\\work\\Y2S1\\IT2120 - Probability and Stat
2 getwd()
3
4 min_total <- 40
5 a <- 10
6 b <- 25
7 p1 <- (b - a) / min_total
8 cat(sprintf("1) P(train arrives between 8:10 and 8:25) = %g (=%0.4f)\\n", p1, p1))
9
10 lambda <- 1/3
11 t <- 2 # hours
12 p2 <- 1 - exp(-lambda * t)
13 cat(sprintf("2) P(update takes at most 2 hours) = %g (=%0.6f)\\n", p2, p2))
14
15 mu <- 100
16 sigma <- 15
17 p3i <- 1 - pnorm(130, mean = mu, sd = sigma)
18 cat(sprintf("3(i) P(IQ > 130) = %g (=%0.6f)\\n", p3i, p3i))
19
20 q95 <- qnorm(0.95, mean = mu, sd = sigma)
21 cat(sprintf("3(ii) 95th percentile IQ score = %g (=%0.3f)\\n", q95, q95))
22
23
24
```

Console

```
Console Terminal Background Jobs
R 4.5.1 · ~/SLIIT/Work/Y2S1/IT2120 - Probability and Statistics/Lab07/IT24100886/
> setwd('C:\\Users\\hasit\\OneDrive\\Documents\\SLIIT\\Work\\Y2S1\\IT2120 - Probability and Statistics\\Lab07\\IT24100886')
> getwd()
[1] "C:/Users/hasit/OneDrive/Documents/SLIIT/Work/Y2S1/IT2120 - Probability and Statistics/Lab07/IT24100886"
>
> min_total <- 40
> a <- 10
> b <- 25
> p1 <- (b - a) / min_total
> cat(sprintf("1) P(train arrives between 8:10 and 8:25) = %g (=%0.4f)\n", p1, p1))
1) P(train arrives between 8:10 and 8:25) = 0.375 (=%0.3750)
>
> lambda <- 1/3
> t <- 2 # hours
> p2 <- 1 - exp(-lambda * t)
> cat(sprintf("2) P(update takes at most 2 hours) = %g (=%0.6f)\n", p2, p2))
2) P(update takes at most 2 hours) = 0.486583 (=%0.486583)
>
> mu <- 100
> sigma <- 15
> p3i <- 1 - pnorm(130, mean = mu, sd = sigma)
> cat(sprintf("3(i) P(IQ > 130) = %g (=%0.6f)\n", p3i, p3i))
3(i) P(IQ > 130) = 0.0227501 (=%0.022750)
>
> q95 <- qnorm(0.95, mean = mu, sd = sigma)
> cat(sprintf("3(ii) 95th percentile IQ score = %g (=%0.3f)\n", q95, q95))
3(ii) 95th percentile IQ score = 124.673 (=%124.673)
> |
```