

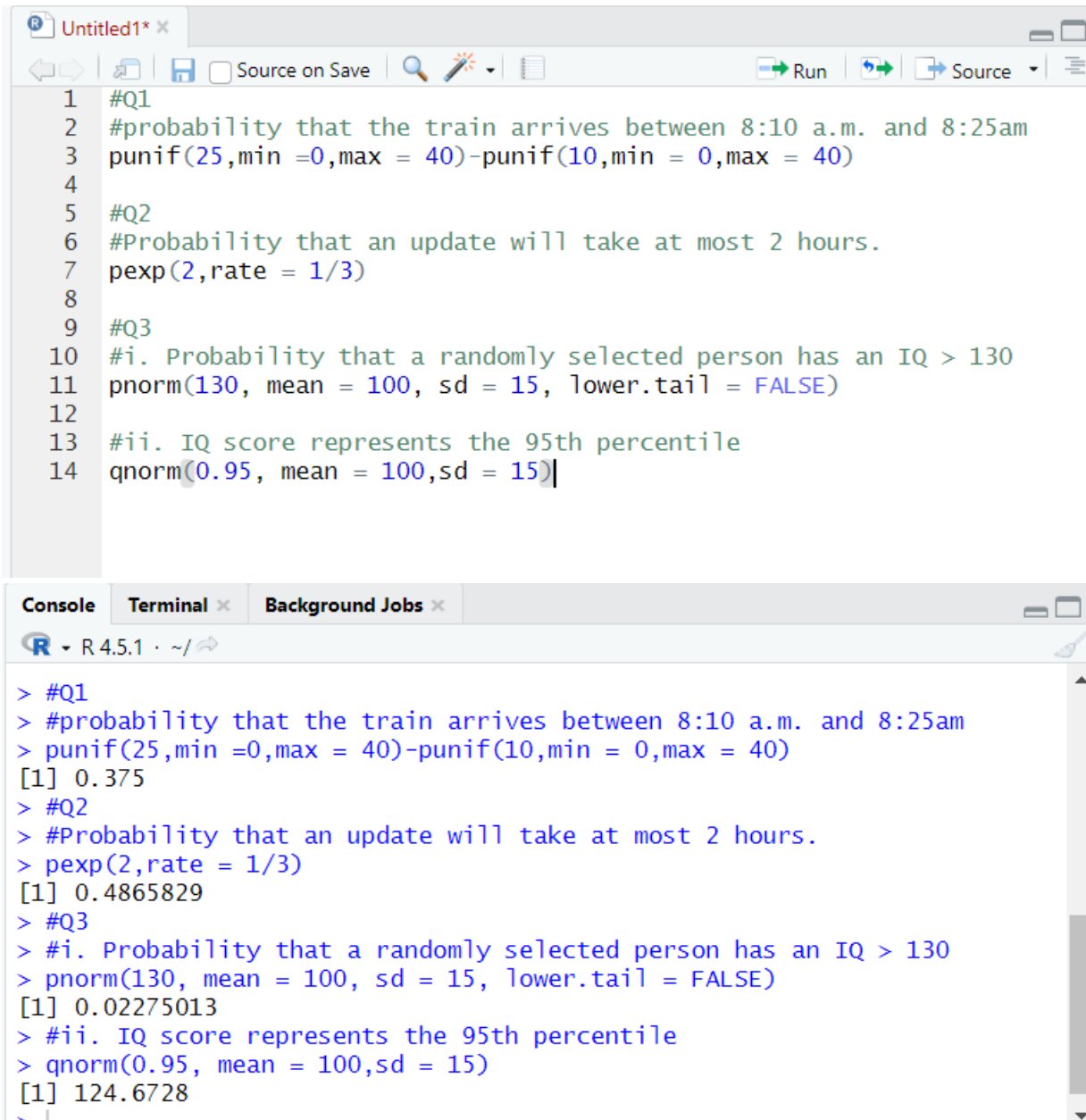
# IT2120- Probability and Statistics

## Lab Sheet 07

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### Exercise:



The screenshot displays the R Studio environment. The top pane shows a script editor with the following R code:

```
1 #Q1
2 #probability that the train arrives between 8:10 a.m. and 8:25am
3 punif(25,min =0,max = 40)-punif(10,min = 0,max = 40)
4
5 #Q2
6 #Probability that an update will take at most 2 hours.
7 pexp(2,rate = 1/3)
8
9 #Q3
10 #i. Probability that a randomly selected person has an IQ > 130
11 pnorm(130, mean = 100, sd = 15, lower.tail = FALSE)
12
13 #ii. IQ score represents the 95th percentile
14 qnorm(0.95, mean = 100,sd = 15)
```

The bottom pane shows the R console with the following output:

```
> #Q1
> #probability that the train arrives between 8:10 a.m. and 8:25am
> punif(25,min =0,max = 40)-punif(10,min = 0,max = 40)
[1] 0.375
> #Q2
> #Probability that an update will take at most 2 hours.
> pexp(2,rate = 1/3)
[1] 0.4865829
> #Q3
> #i. Probability that a randomly selected person has an IQ > 130
> pnorm(130, mean = 100, sd = 15, lower.tail = FALSE)
[1] 0.02275013
> #ii. IQ score represents the 95th percentile
> qnorm(0.95, mean = 100,sd = 15)
[1] 124.6728
```

