

IT24102279 Lab 07

The screenshot displays the Posit Cloud interface. On the left sidebar, the 'Your Workspace' section is active, showing options for 'New Space', 'Learn' (with links to Guide, What's New, Recipes, and Cheatsheets), 'Help' (with links to Current System Status and Posit Community), and 'Info' (with links to Plans & Pricing and Terms and Conditions).

The main workspace area is titled 'Your Workspace / Untitled Project' with a link to 'Click to name your project'. It features a menu bar (File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, Help) and a toolbar with icons for file operations and running code. The central pane shows an R script with the following code:

```
1 # 1
2 # P(10 <= X <= 25)
3 punif(25, min = 0, max = 40, lower.tail = TRUE) - punif(10, min = 0, max = 40, lower.tail = TRUE)
4
5 # 2
6 # P(X <= 2)
7 pexp(2, rate = 1/3, lower.tail = TRUE)
8
9 # 3
10 # i P(X > 130)
11 1 - pnorm(130, mean = 100, sd = 15, lower.tail = TRUE)
12
13 # ii 95th percentile
14 qnorm(0.95, mean = 100, sd = 15, lower.tail = TRUE)
15
```

Below the script editor is a console window with the following output:

```
R - R 4.5.1 - /cloud/project/
R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> # 1
> # P(10 <= X <= 25)
> punif(25, min = 0, max = 40, lower.tail = TRUE) - punif(10, min = 0, max = 40, lower.tail = TRUE)
[1] 0.375
> # 2
> # P(X <= 2)
> pexp(2, rate = 1/3, lower.tail = TRUE)
[1] 0.4865829
> # 3
> # i P(X > 130)
> 1 - pnorm(130, mean = 100, sd = 15, lower.tail = TRUE)
[1] 0.02275013
> # ii 95th percentile
> qnorm(0.95, mean = 100, sd = 15, lower.tail = TRUE)
[1] 124.6728
>
```