

ITDS Prac 8

The screenshot shows an RStudio interface with the following details:

- File Menu:** File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, Help.
- Toolbar:** Go to file/function, Addins.
- Code Editor:** The code is in a script named "r prac 4.R". It creates a dataset "student\_data" with columns ID, Name, Age, Gender, Department, and Marks. The data includes rows for Aman, Sahil, Priya, Karan, Meena, Vikas, Neha, Rohit, Pooja, Arjun, Simran, Deepak, Anjali, Kabir, Sonam, Nikhil, Kaaita, Manoj, Sneha, Varun, Tanya, Raj, Divya, and Monit.
- Console:** Shows the command `> print(student\_data)` and its output, which is a table of student information.
- Environment Tab:** Shows variables: Male, Female, Male\_Female\_Male, Department, Marks, and a list of student names.
- Plots Tab:** Not applicable for this code snippet.
- Packages Tab:** Shows available packages: akpass, backports, base64enc, bit, bit64, blob, broom, and bslib.

The screenshot shows the RStudio interface. The top menu bar includes File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, Help, and a Project tab set to '(None)'. The main area contains an R script with the following code:

```
Male, "Female", "Male", "Female", "Male"),
21
22 Department = c("ES", "IT", "ECE", "CS", "IT",
23     "ECE", "CS", "IT", "ECE", "CS",
24     "IT", "ECE", "CS", "IT", "ECE",
25     "CS", "IT", "ECE", "CS", "IT",
26     "ECE", "CS", "IT", "ECE", "CS"),
27
28 Marks = c(85, 90, 78, 88, 92,
29     80, 75, 95, 70, 89,
30     84, 91, 73, 87, 76,
31     94, 82, 77, 85, 90,
32     72, 88, 93, 79, 81)
33
34
35 )
36
37
38 #Print dataset
39 print(student_data)
40
```

The console below shows the output of the `print(student_data)` command:

ID	Name	Gender	Department	Marks
13	Deepak	23	Male	CS 73
14	Anjali	22	Female	IT 87
15	Kabir	20	Male	ECE 76
16	Sonam	21	Female	CS 94
17	Nikhil	19	Male	IT 82
18	Kavita	22	Female	ECE 77
19	Manoj	20	Male	CS 85
20	Sneha	21	Female	IT 90
21	Varun	23	Male	ECE 72
22	Tanya	22	Female	CS 88
23	Raj	20	Male	IT 93
24	Divya	19	Female	ECE 79

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The screenshot shows the RStudio interface with the following components:

- Header:** RStudio, File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, Help.
- Toolbar:** Go to file/function, Addins.
- Code Editor:** Two files are open: "r prac 4 a.R" and "r prac 4 b.R". The code in "r prac 4 a.R" is as follows:

```
50 #Load library
51 library(ggplot2)
52
53 #Scatter plot with dark theme
54 ggplot(student_data, aes(x = Age, y = Marks, color = Gender)) +
55
56   geom_point(size = 3) +
57
58   facet_wrap(~Department) +
59
60   labs(
61
62     title = "Student Marks vs Age (Faceted by Department)",
63     x = "Age of Student",
64     y = "Marks Scored",
65     color = "Gender"
66
67   ) +
68
69   theme_dark()
70
```

- Console:** Shows "Background Jobs" and "R 4.4.1 . ~/o".
- Plot Area:** A scatter plot titled "Student Marks vs Age (Faceted by Department)". The x-axis is "Age of Student" (19 to 23) and the y-axis is "Marks Scored" (70 to 95). The plot is faceted by "Department" (CS, ECE, IT). Data points are colored by "Gender": Female (red circles) and Male (teal circles).
- Environment:** Shows the variables defined in the current session.
- Help:** Project (None).

The screenshot shows the RStudio interface with the following details:

- Top Bar:** RStudio, File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, Help.
- File Tab:** r prac 4 a.R, r prac 4 b.R\*, Untitled\*, Untitled3, Untitled4.
- Code Editor:** The code is for a scatter plot with facets. It uses ggplot2 to create a scatter plot of Sepal Length vs Sepal Width for three flower species (setosa, versicolor, virginica). The plot is faceted by species. The code includes theme\_minimal() and theme\_dark() themes.
- Console:** Shows the output of the R session, including the loading of ggplot2 and the execution of the ggplot command.
- Plots:** A scatter plot titled "Sepal Length vs Sepal Width (Faceted by Species)". The x-axis is "Sepal Length" (ranging from 4.5 to 8) and the y-axis is "Sepal Width" (ranging from 2.0 to 4.5). The plot is faceted by "Species": setosa (red), versicolor (green), and virginica (blue).