

## Module 6 - Creating a pie chart

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### Steps to create a pie chart in R

This module illustrates the procedure to create a pie chart in R.

**Step 1.** Create and store the frequency table of a discrete data column in the variable **frequency\_table** using the instructions mentioned in Module 4.

```
data <- Indian_Agriculture_Data$PFS
frequency_table <- table(data)
```

**Step 2.** Create a pie chart by passing **frequency\_table** as input to the **pie()** function of R.

```
pie(frequency_table)
```

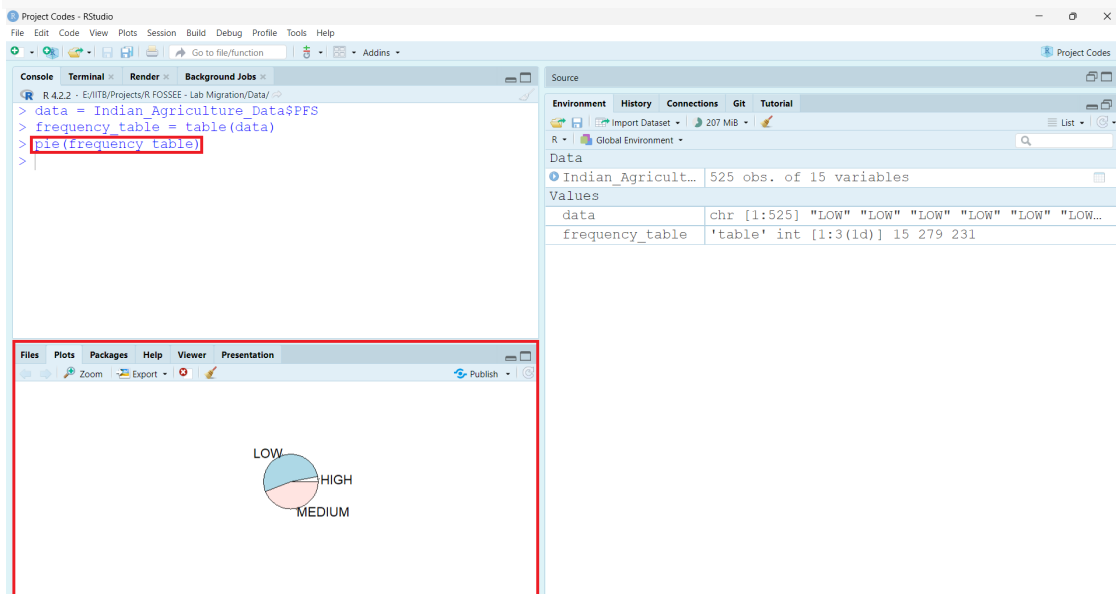


Figure 1: Pie chart of the **PFS** column data.

**Step 3.** Change the radius of the pie chart by passing numeric value to the *radius* argument of the **pie()** function.

```
pie(frequency_table,
    radius = 1)
```

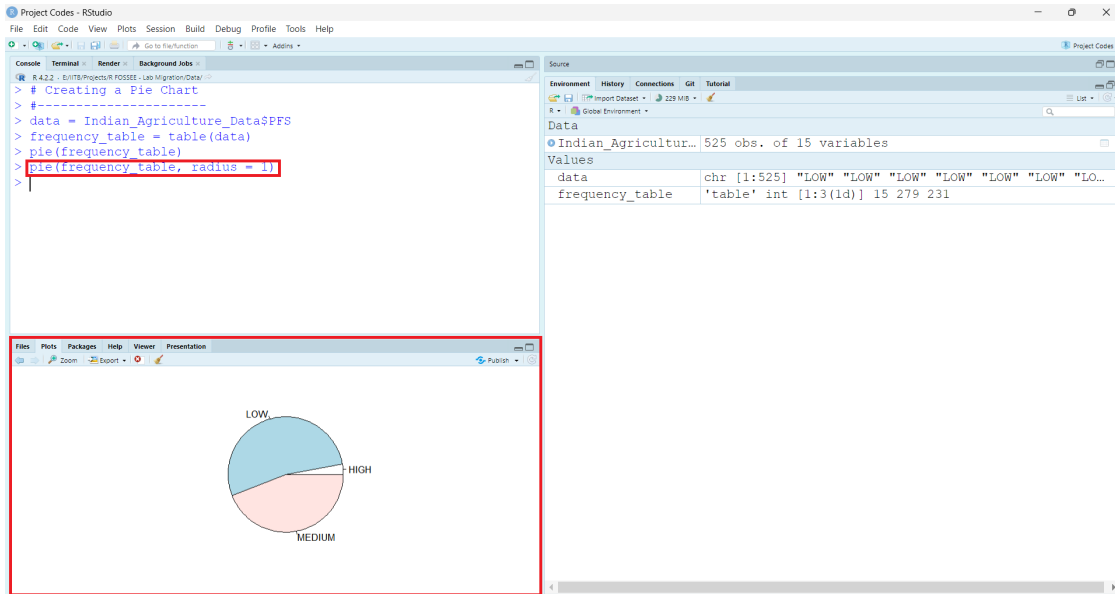


Figure 2: Pie chart with increased radius.

**Step 4.** Add a title to the pie chart by passing text input to the *main* argument of the **pie()** function.

```
pie(frequency_table,
    radius = 1,
    main = "Phosphorus fertility status")
```

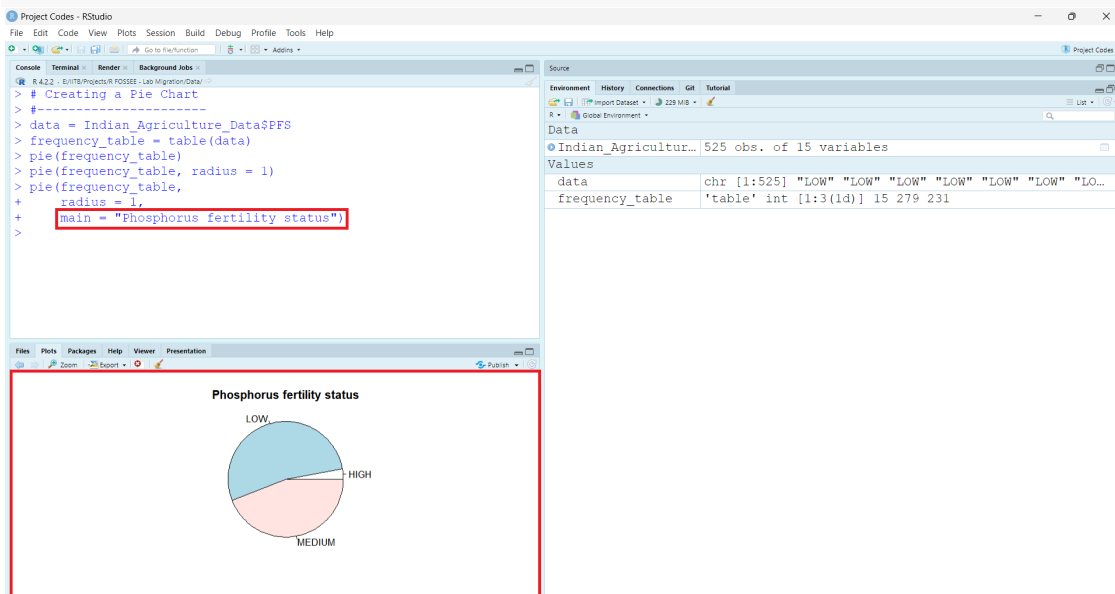


Figure 3: Pie chart with title.

**Step 5.** Add labels to the pie chart as percentage by creating a vector of percentages (rounding off up to 2 digits) as *perc* and by passing it to *labels* arguments of the **pie()** function.

`paste0()` function concatenates two strings.

```
perc = round(frequency_table/sum(frequency_table) * 100, 2)
pie(frequency_table,
    radius = 1,
    main = "Phosphorus fertility status",
    labels = paste0(perc, "%"))
```

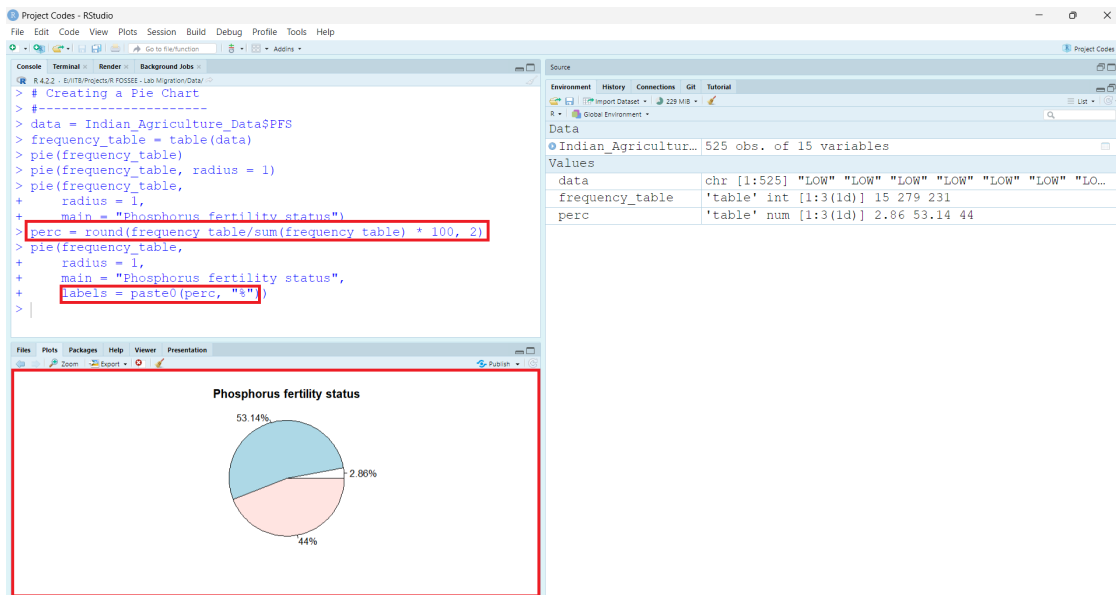


Figure 4 : Pie chart with labels as percentages.

**Step 6.** Add fill and border color to the pie chart by passing color names equal to the number of its pieces to the `col` argument and a single color name to the `border` argument of the `pie()` function, respectively.

```
pie(frequency_table,
    radius = 1,
    main = "Phosphorus fertility status",
    labels = paste0(perc, "%"),
    col = c("green", "orange", "blue"), border = "brown")
```

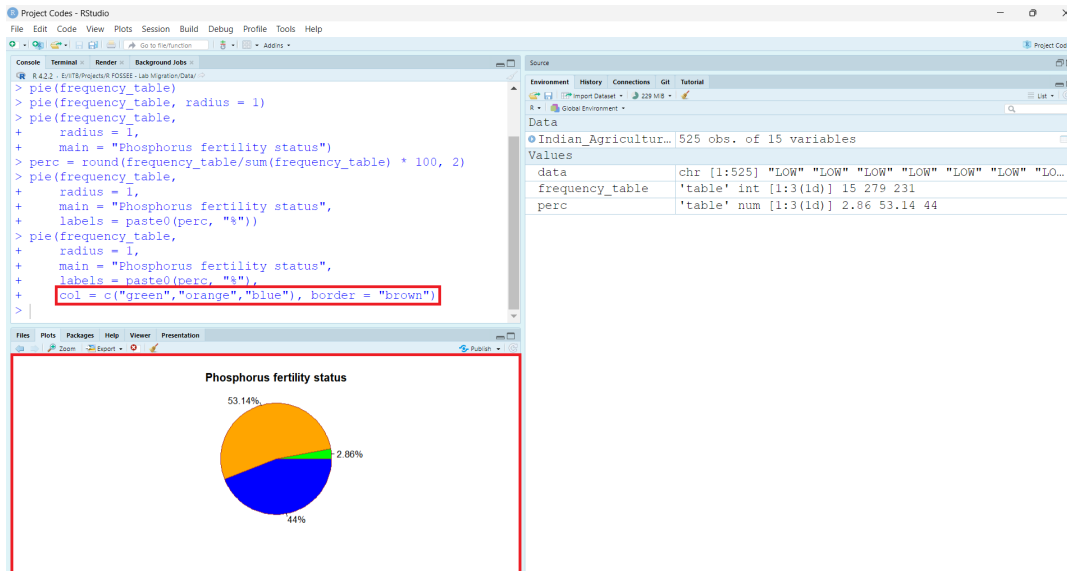


Figure 5: Pie chart with custom colored pieces and border.

**Step 7.** Add rainbow colors to the pie pieces by using the rainbow color palette function **rainbow()** instead of passing individual color names to the **col** argument of the **pie()** function.

```

pie(frequency_table,
    radius = 1,
    main = "Phosphorus fertility status",
    labels = paste0(perc, "%"),
    col = rainbow(3), border = "brown")

```

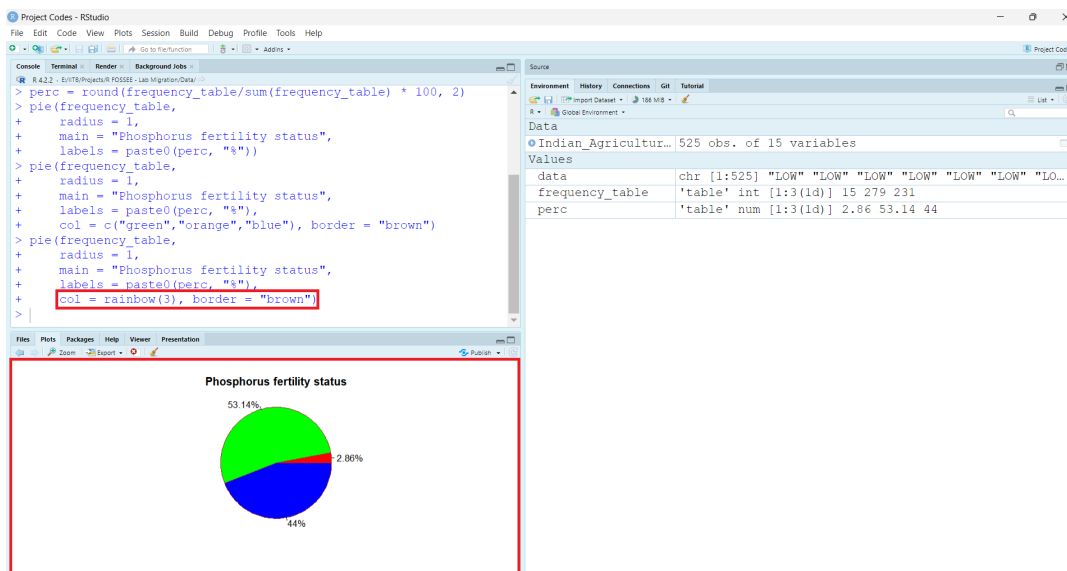


Figure 6 : Pie chart with rainbow colors.

**Step 8.** Add legend to the pie chart by using the **legend()** function, by passing the first argument as the *'position of the legend'*, *legend* argument as a character vector to appear in the legend and *fill* argument to specify colors to appear beside the legend text.

```
legend("topleft",  
      legend = names(perc),  
      fill = rainbow(3))
```

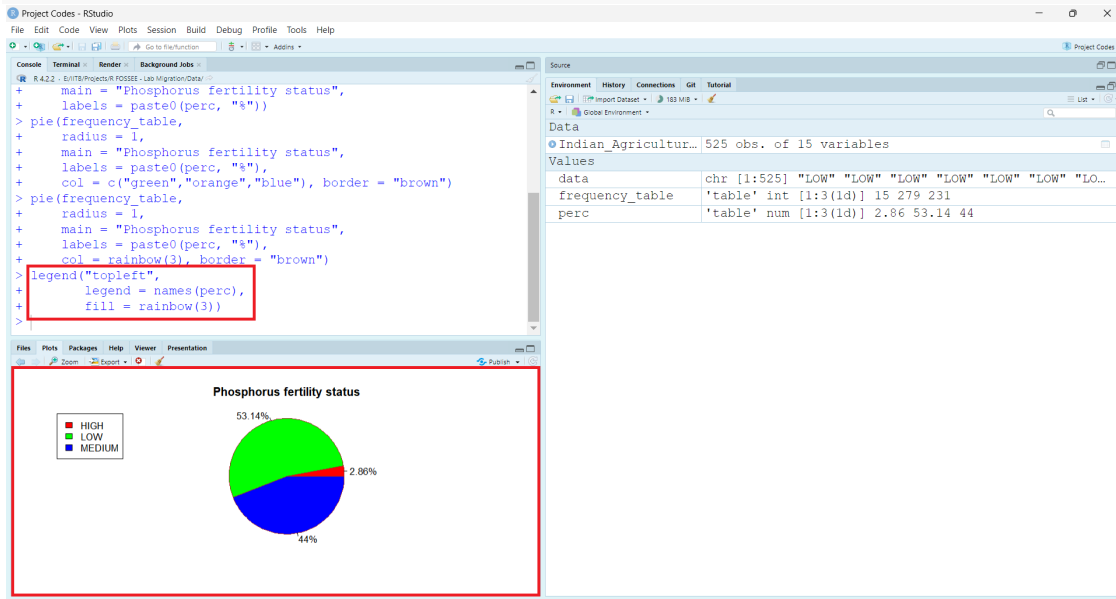


Figure 7: Pie chart with added legend

To save the pie chart kindly refer to the instructions given from step 8 to step 13 in Module 5.

## Spoken Tutorials

For more details, refer to the [Plotting Histograms and Pie Chart Spoken Tutorial](#) video.