

# Pipe Operator

**Spoken Tutorial Project**

**<https://spoken-tutorial.org>**

**National Mission on Education through ICT**

**<http://sakshat.ac.in/>**

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# Learning Objectives

**We will learn about:**



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We will learn about:

- ▶ **summarise** and **group\_by** functions



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- ▶ Operations in **summarise** function



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We will learn about:

- ▶ **summarise** and **group\_by** functions
- ▶ Operations in **summarise** function
- ▶ Pipe operator



# Pre-requisites



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- ▶ **Basics of statistics**



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- ▶ Basics of statistics
- ▶ Basics of **ggplot2** and **dplyr** packages



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- ▶ Basics of **ggplot2** and **dplyr** packages
- ▶ Data frames



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- ▶ Basics of statistics
- ▶ Basics of **ggplot2** and **dplyr** packages
- ▶ Data frames

Please locate the relevant tutorials on <https://spoken-tutorial.org/>



# System Specifications



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- ▶ **Ubuntu Linux OS v 16.04**



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- ▶ **R v 3.4.4**



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- ▶ **RStudio v 1.1.463**



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- ▶ **R v 3.4.4**
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**R version 3.2.0 or higher**



# Download Files

**We will use:**



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We will use:

- ▶ A data frame **moviesData.csv**



# Download Files

We will use:

- ▶ A data frame **moviesData.csv**
- ▶ A script file **myPipe.R**



# Download Files

We will use:

- ▶ A data frame [moviesData.csv](#)
- ▶ A script file [myPipe.R](#)

Download these files from the [Code files](#) link of this tutorial



# summarise function



# summarise function

- ▶ **summarise** function reduces a data frame into a single row



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- ▶ It gives summaries like mean, median, etc. of the variables available in the data frame



# summarise function

- ▶ **summarise** function reduces a data frame into a single row
- ▶ It gives summaries like mean, median, etc. of the variables available in the data frame
- ▶ We use **summarise** along with **group\_by** function



# group\_by function



# group\_by function

When we use **group\_by** function,



# group\_by function

When we use **group\_by** function, the data frame gets divided into different groups



# Pipe operator



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- ▶ **The pipe operator is denoted as**

$\% > \%$



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# Pipe operator

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$\% > \%$

- ▶ It prevents us from making unnecessary data frames
- ▶ We can read the pipe as a series of imperative statements



# Example of Pipe operator



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If we have to find the **cosine** of **sine** of  $\pi$ , we can write



# Example of Pipe operator

If we have to find the **cosine** of **sine** of **pi**, we can write

```
pi | %>% sin() | %>% cos()
```



# Summary

We have learnt about:

- ▶ **summarise** and **group\_by** functions
- ▶ Operations in **summarise** function
- ▶ Pipe operator



# Assignment

1. Use the built-in data set *iris*.  
Using the pipe operator, group the flowers by their *Species*
2. Summarise the grouped data by the mean of *Sepal.Length* and *Sepal.Width*



# About the Spoken Tutorial Project

- ▶ Watch the video available at [http://spoken-tutorial.org/What\\_is\\_a\\_Spoken\\_Tutorial](http://spoken-tutorial.org/What_is_a_Spoken_Tutorial)
- ▶ It summarises the Spoken Tutorial project
- ▶ If you do not have good bandwidth, you can download and watch it



# Spoken Tutorial Workshops

## The Spoken Tutorial Project Team

- ▶ Conducts workshops using spoken tutorials
- ▶ Gives certificates to those who pass an online test
- ▶ For more details, please write to [contact@spoken-tutorial.org](mailto:contact@spoken-tutorial.org)



# Forum to answer questions

- ▶ Do you have questions in **THIS Spoken Tutorial?**
- ▶ Choose the minute and second where you have the question
- ▶ Explain your question briefly
- ▶ Someone from the **FOSSEE** team will answer them. Please visit

<http://forums.spoken-tutorial.org/>



# Forum to answer questions

- ▶ Questions not related to the Spoken Tutorial?
- ▶ Do you have general / technical questions on the Software?
- ▶ Please visit the FOSSEE Forum  
<http://forums.fossee.in/>
- ▶ Choose the Software and post your question



# Textbook Companion Project

- ▶ **The FOSSEE team coordinates coding of solved examples of popular books**
- ▶ **We give honorarium and certificates to those who do this**

**For more details, please visit these sites:**

<https://r.fossee.in/>  
<https://fossee.in/>



# Acknowledgements

- ▶ Spoken Tutorial Project is a part of the Talk to a Teacher project
- ▶ It is supported by the National Mission on Education through ICT, MHRD, Government of India
- ▶ More information on this Mission is available at:

<http://spoken-tutorial.org/NMEICT-Intro>



# Thank You

- ▶ **The script for this tutorial was contributed by Varshit Dubey (CoE Pune)**
- ▶ **The video has been created by Sudhakar Kumar, IIT Bombay**

