

# Operation on Matrices and Data Frames

**Spoken Tutorial Project**

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

**National Mission on Education through ICT**

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

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**IIT Bombay**

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# Learning Objectives

**We will learn how to:**



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## We will learn how to:

- ▶ **Peform operation on matrices**



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**We will learn how to:**

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- ▶ **Add rows and columns to a data frame**



# Pre-requisites



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## ► Data frames and Matrices in R



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- ▶ R script in RStudio



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- ▶ **R script in RStudio**
- ▶ **How to set working directory in RStudio**





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- ▶ Data frames and Matrices in R
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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 version 3.2.0 or higher**



# Download Files



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- ▶ We will use the data frame **CaptaincyData.csv** and the script file **myMatrix.R**





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- ▶ We will use the data frame **CaptaincyData.csv** and the script file **myMatrix.R**
- ▶ Download these files from the **Code files** link of this tutorial



# Summary

**We have learnt how to:**

- ▶ **Perform operations on matrices**
- ▶ **Add rows or columns to a data frame**



# Assignment

1. Consider 2 vectors  $c(9,10,11,12)$  and  $c(13,14,15,16)$
2. Create a 4 by 2 matrix from these two vectors
3. Add another vector  $c(17,18,19,20)$  as a column to the previous matrix



# 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



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- ▶ 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/>







# 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 Shaik Sameer (FOSSEE Fellow 2018)
- ▶ The video has been created by Sudhakar Kumar, IIT Bombay

