

# Least Squares Regression

Spoken Tutorial Project

<https://spoken-tutorial.org>

National Mission on Education through ICT

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30 June 2022



# Learning Objectives



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**We will learn about,**



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We will learn about,

▶ **Linear regression**



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- ▶ **Correlation coefficient**



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- ▶ Residuals and best fit line
- ▶ **Sum of squared residuals**



# System Requirement



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- ▶ **Windows 10 (64-bit) operating system**



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- ▶ **Chrome version 101.0.49**



# Prerequisites



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- ▶ A learner should be familiar with topics in basic mathematics



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- ▶ Please use the link below to access the tutorials on PhET Simulations  
<https://spoken-tutorial.org>



# Link for PhET Simulation

- ▶ Please use the given link to download the PhET simulation <https://phet.colorado.edu/en/simulations/least-squares-regression>



# Least Squares Regression

- ▶ A best fit line that reduces error by minimising the distance of the residuals



# PhET Simulations



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In this tutorial we will use,



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In this tutorial we will use,

- ▶ **Least-Squares Regression PhET simulation**



# Summary

**We have learnt about,**

- ▶ **Linear Regression**
- ▶ **Correlation coefficient**
- ▶ **Residuals and best fit line**
- ▶ **Sum of squared residuals**



# Assignment

- ▶ Explore the various data combinations given in the simulation



# About the Spoken Tutorial Project

- ▶ Watch the video available at [https://spoken-tutorial.org/What\\_is\\_a\\_Spoken\\_Tutorial](https://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)



# Answers for THIS Spoken Tutorial

- ▶ Questions in THIS Spoken Tutorial?
- ▶ Visit <https://forums.spoken-tutorial.org>
- ▶ Choose the minute and second where you have the question
- ▶ Explain your question briefly
- ▶ The Spoken Tutorial project will ensure an answer

You will have to register to ask questions



# Acknowledgements

**The Spoken Tutorial project is funded by the Ministry of Education, Govt. of India**



# Thank you

- ▶ **This is Shraddha Kodavade, a FOSSEE summer fellow 2022, IIT Bombay signing off**
- ▶ **Thanks for joining**

