Setting-up a Test Case in OpenFOAM

Spoken Tutorial Project
https://spoken-tutorial.org
National Mission on Education through ICT

http://sakshat.ac.in/

Ashley Melvin & Swetha Sridhar

IIT Bombay

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Learning Objectives

We will learn to:

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▶ **Set up a** `case`

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System Specifications

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- gedit Text Editor

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- **If not, please go through the prerequisite** `Linux` **tutorials on https://spoken-tutorial.org**
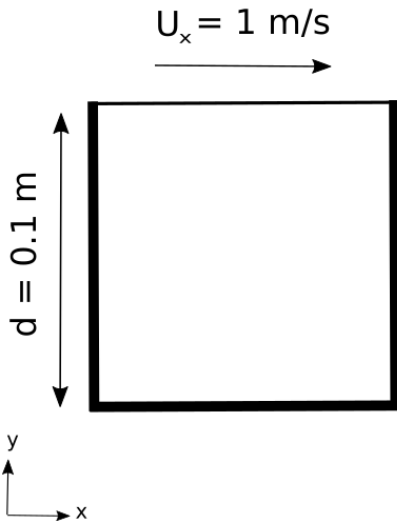
Lid Driven Cavity

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- `Lid driven cavity` **is one of the most widely used 2D test cases for the validation of a** `CFD` **code**

Diagram

blockMesh

- **The** `mesh generator` **for** `OpenFOAM` **is a utility called** `blockMesh`

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- **The input dictionary for** `blockMesh` **utility is** `blockMeshDict`

Kinematic Viscosity

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Where `velocity` $(|U|)$ `= 1 m/s`

`Characteristic length` (d) `= 0.1 m`

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- **The** kinematic viscosity (ν) **is therefore** 0.01 m^2/s

Summary

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▶ `Pre-process` **a case**

▶ `Run` **a case**

▶ `Post-process` **a case**

About the Spoken Tutorial Project

▶ **Watch the video available at**
  https://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**

Spoken Tutorial Forum

- ▶ **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**

FOSSEE Forum

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

FOSSEE Case Study Project

- ▶ **The FOSSEE team coordinates solving feasible CFD problems of reasonable complexity using OpenFOAM**

- ▶ **We give honorarium and certificates to those who do this**

- ▶ **For more details, please visit:**
  https://cfd.fossee.in/
  https://fossee.in/

Acknowledgements

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