

snappyHexMesh in OpenFOAM

Talk to a Teacher

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

National Mission on Education through ICT

<http://spoken-tutorial.org>

Chaitrali Ghodke

IIT Bombay

July 8, 2014



Talk to a Teacher

Learning Objectives

- Parameters in snappyHexMesh to generate Mesh in OpenFOAM



Talk to a Teacher

Pre-requisite

- Surface data files in STL format



Talk to a Teacher

Pre-requisite

- Surface data files in STL format
- A domain with hex mesh



Talk to a Teacher

Pre-requisite

- Surface data files in STL format
- A domain with hex mesh
- **snappyHexMeshDict**



Talk to a Teacher

System Requirement

- Ubuntu Linux version 12.04



Talk to a Teacher

System Requirement

- **Ubuntu Linux version 12.04**
- **OpenFOAM version 2.2.2**



Talk to a Teacher

System Requirement

- **Ubuntu Linux version 12.04**
- **OpenFOAM version 2.2.2**
- **ParaView version 3.12.0**



Talk to a Teacher

Methodology for snappyHexMesh

- Create a base mesh using
blockMesh



Talk to a Teacher

Methodology for snappyHexMesh

- **Create a base mesh using blockMesh**
- **Refine base mesh**



Talk to a Teacher

Methodology for snappyHexMesh

- **Create a base mesh using blockMesh**
- **Refine base mesh**
- **Remove unused cells**



Talk to a Teacher

Methodology for snappyHexMesh

- Create a base mesh using `blockMesh`
- Refine base mesh
- Remove unused cells
- Snap mesh to surface



Talk to a Teacher

Methodology for snappyHexMesh

- Create a base mesh using `blockMesh`
- Refine base mesh
- Remove unused cells
- Snap mesh to surface
- Add layers



Talk to a Teacher

Summary

In this tutorial we learnt

- Different parameters in snappyHexMesh to generate mesh in OpenFoam



Talk to a Teacher

About the Spoken Tutorial Project

- Watch the video available at http://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- It summarises the Spoken Tutorial project



Talk to a Teacher

About the Spoken Tutorial Project

- Watch the video available at 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



Talk to a Teacher

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



Talk to a Teacher

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>



Talk to a Teacher