

# Spoken Tutorial

# Creating curved Geometry in OpenFOAM

**Talk to a Teacher**

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

**National Mission on Education through ICT**

<http://spoken-tutorial.org>

**Rahul Joshi**

**Date: 27 March,2012**



Talk to a Teacher

# Learning Objectives

- Steps for creating a curved geometry in OpenFOAM



Talk to a Teacher

# Learning Objectives

- **Steps for creating a curved geometry in OpenFOAM**



Talk to a Teacher

# Learning Objectives

- Steps for creating a curved geometry in OpenFOAM
- Viewing the results in paraview



Talk to a Teacher

# System Requirement

- Linux Operating System Ubuntu version 10.04



Talk to a Teacher

# System Requirement

- **Linux Operating System Ubuntu version 10.04**



Talk to a Teacher

# System Requirement

- **Linux Operating System Ubuntu version 10.04**
- **OpenFOAM version 2.1.0**



Talk to a Teacher

# System Requirement

- **Linux Operating System Ubuntu version 10.04**
- **OpenFOAM version 2.1.0**



Talk to a Teacher



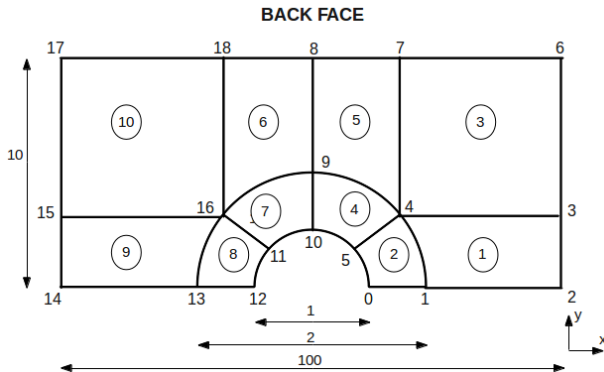
# System Requirement

- **Linux Operating System Ubuntu version 10.04**
- **OpenFOAM version 2.1.0**
- **ParaView version 3.12.0**



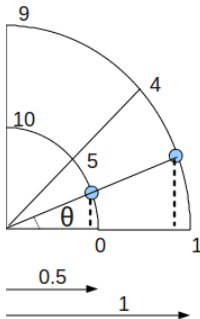
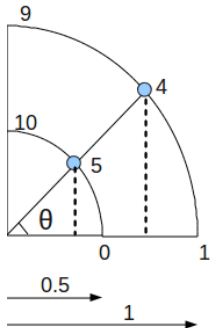
Talk to a Teacher

# Curved geometry



### Talk to a Teacher

# Curved geometry

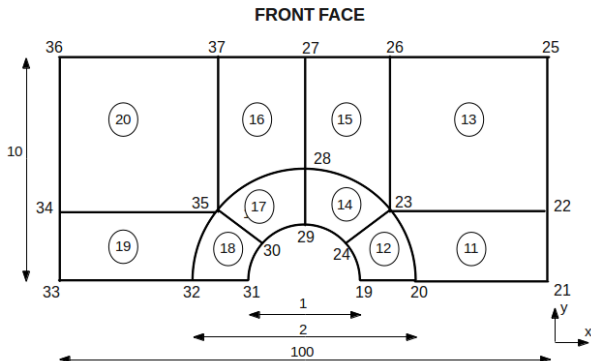


- $\sin(\theta) = \text{opposite/hypotenuse}$
- $\cos(\theta) = \text{adjacent/hypotenuse}$



Talk to a Teacher

# Curved geometry



Talk to a Teacher

# Summary

- How to create a curved geometry



Talk to a Teacher

# Summary

- How to create a curved geometry
- How to enter points for edges in OpenFOAM



Talk to a Teacher

# Assignment

- Create a geometry with inner semi-circle of radius 2 and outer semi-circle of radius 4 meters



Talk to a Teacher

# Assignment

- Create a geometry with inner semi-circle of radius 2 and outer semi-circle of radius 4 meters



Talk to a Teacher



# Assignment

- Create a geometry with inner semi-circle of radius 2 and outer semi-circle of radius 4 meters
- View the geometry in paraview



Talk to a Teacher

# 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



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](mailto: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