

# Writing Commands

**Talk to a Teacher**

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

**National Mission on Education through ICT**

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

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# Learning Objectives



# Learning Objectives

Type commands to,

- ▶ **Change the display to atoms**



# Learning Objectives

Type commands to,

- ▶ **Change the display to atoms**
- ▶ **Show and hide ribbons**



# Learning Objectives

Type commands to,

- ▶ Change the display to atoms
- ▶ Show and hide ribbons
- ▶ Change the color of the amino acid residues



# Learning Objectives

Type commands to,

- ▶ Change the display to atoms
- ▶ Show and hide ribbons
- ▶ Change the color of the amino acid residues
- ▶ Label individual residues



# Learning Objectives



# Learning Objectives

- ▶ **Remove solvent molecules**



# Learning Objectives

- ▶ **Remove solvent molecules**
- ▶ **Save the image in different file formats**



# Pre-requisites



# Pre-requisites

- ▶ **Undergraduate Biochemistry**



# Pre-requisites

- ▶ **Undergraduate Biochemistry**
- ▶ **Structural Biology**



# Pre-requisites

- ▶ **Undergraduate Biochemistry**
- ▶ **Structural Biology**
- ▶ **Chimera interface**



# Pre-requisites

- ▶ **Undergraduate Biochemistry**
- ▶ **Structural Biology**
- ▶ **Chimera interface**
- ▶ **<http://spoken-tutorial.org>**



# System Requirement



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- ▶ **Ubuntu OS version 14.04**



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- ▶ **Ubuntu OS version 14.04**
- ▶ **Chimera version 1.10.2**



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- ▶ **Ubuntu OS version 14.04**
- ▶ **Chimera version 1.10.2**
- ▶ **Mozilla firefox browser 42.0**



# System Requirement

- ▶ **Ubuntu OS version 14.04**
- ▶ **Chimera version 1.10.2**
- ▶ **Mozilla firefox browser 42.0**
- ▶ **Working internet connection**



# Chimera Commands



# Chimera Commands

- ▶ **Chimera commands are entered at the Command line**



# Chimera Commands

- ▶ **Chimera commands are entered at the Command line**
- ▶ **Multiple commands can be combined into one line with semicolon separators**



# Chimera Commands

- ▶ **Chimera commands are entered at the Command line**
- ▶ **Multiple commands can be combined into one line with semicolon separators**
- ▶ **Press Enter key to execute the command**



# Chimera Commands



# Chimera Commands

- ▶ **Previous commands can be accessed from command History**



# Chimera Commands

- ▶ Previous commands can be accessed from command History
- ▶ <http://www.cgl.ucsf.edu/chimera/docs/UsersGuide/framecore.html>



# Summary



# Summary

## Commands to,

- ▶ **Change the display to atoms**
- ▶ **Show and hide ribbons**
- ▶ **Change the color of the amino acid residues**
- ▶ **Label individual residues**



# Summary



# Summary

- ▶ **Remove solvent molecules**
- ▶ **Save the image in different file formats**



# Assignment



# Assignment

Type Commands to,

- ▶ Load the structure of Human Oxyhemoglobin (PDB code: 2dn1)
- ▶ Change the display to **atoms** and hide ribbons
- ▶ Color all **histidine** residues in **green**
- ▶ Remove the solvent molecules
- ▶ Save the image in **JPEG** format



# 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



# 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



# 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)



# 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>

