

## The Spoken Tutorial Project

- Self-explanatory: uses simple language
- Audio-video: uses multisensory approach
- Small duration: has better retention
- Learner-centered: learn at your own pace
- Learning by doing: learn and practise simultaneously
- Empowerment: learn a new FLOSS (Free/Libre and Open Source Software)

## Target Audience

- School students
- Undergraduates / Postgraduates
- Research scholars
- Teachers

## Workshops

The Spoken Tutorial Project Team conducts workshops on Grace and other FLOSS using spoken tutorials and gives certificates to those who pass an online test.

For more details, please visit <https://spoken-tutorial.org>

## Forum

We have developed a beginner friendly Forum to answer specific questions pertaining to any part of a particular tutorial.

For more details, please visit <https://forums.spoken-tutorial.org>.

The Spoken Tutorial Project is funded by the National Mission on Education through Information and Communication Technology, Ministry of Human Resource Development, Government of India.

## Contact us

Email: [contact@spoken-tutorial.org](mailto:contact@spoken-tutorial.org)  
Website: <https://spoken-tutorial.org>

Forum help available to all learners

Content available in 22 Indian languages



IIT Bombay

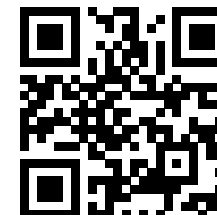
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Spoken Tutorial

<https://spoken-tutorial.org>



visit Spoken Tutorial website

# Grace



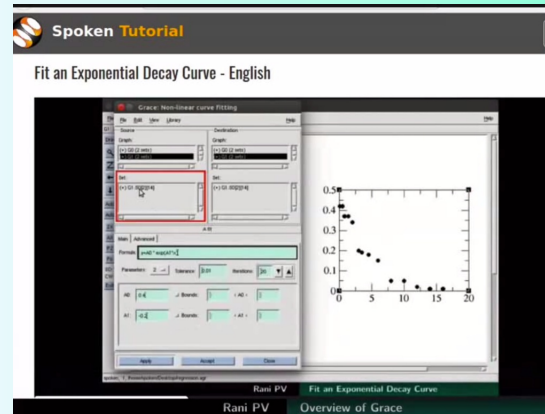
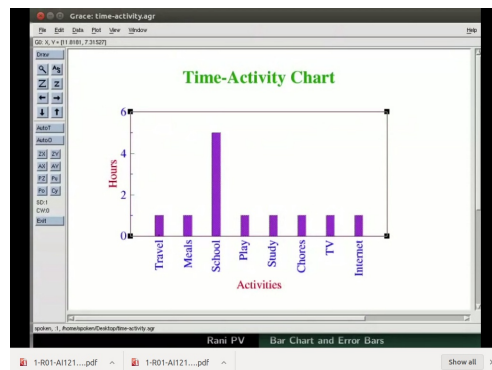
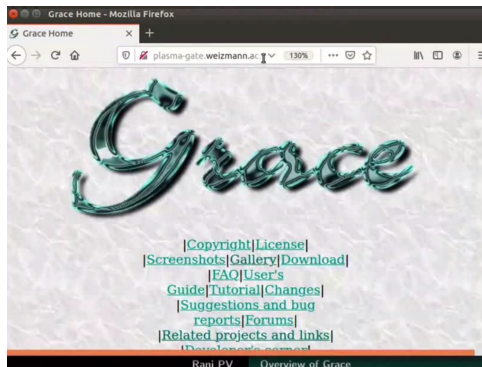
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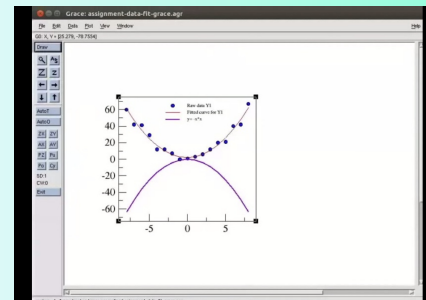
## Introduction

- Grace is a 2D plotting program with a user friendly GUI and is available freely.
- It is developed for Unix based systems.
- It is a cross-platform software and is available for Windows operating system
- For Windows operating system Qtgrace is available.
- Due to its popularity, forks with additional features are available.
- Several softwares use Grace for their plotting needs.
- Grace is also referred to as Xmgrace.



## Download and Installation

- Grace can be installed in Linux systems from the repositories, using apt-get package manager.
- For Windows OS, compiled version of Qtgrace is available.
- Python based interface, forks and C++ based modules are available for Grace.
- For a detailed list, see the website at, <https://plasma-gate.weizmann.ac.il/Grace/projects.html>
- Installation procedure and demonstration files can be downloaded from this web page along with the installable files.



## Important features of Grace

- Can draw 2D plots and multiplots
- Example plots and project files are available online.
- For the convenience of the user, the website below has several example Grace projects and plot styles. <https://plasma-gate.weizmann.ac.il/Grace/gallery/>
- Since Grace project files are text based, the Grace files can be generated programmatically.

## Uses of Grace

- The software can generate multiplots, axis transformations and bar charts.
- It can generate output graphics files in different formats, such as pdf or images.
- Data fitting routines are available to fit datasets to user defined equations.
- Allows scripting in many programming languages such as C++, Fortran, or Python.

