



**Pre-Ph.D. Course Work**  
**Paper-1: Research Methodologies**  
**Unit-3**  
**Topic: Open Source Learning tools**

**Dr. Ashok Kumar Jha**

**Assistant Professor**

**Department of Physics, Patna University**

**Mob:7903067108, Email: ashok.jha1984@gmail.com**

# OUTLINE

- ❖ Meaning of Open Source, free and Proprietary Software
- ❖ Free Open Source software examples
- ❖ Free Open Source software characteristics
- ❖ Richard M. Stallman
- ❖ Libre Office suite
- ❖ Linux Operating system
- ❖ Spoken tutorial

# Open Source and free Software

## ❖ **Open source software:**

- Source code is available to user
- To be able to modify, must have source code
- Alternative term to Stallman's “free software”

## ❖ **Free Software:**

- freedom to use as desire, copy, distribute, modify
- zero cost
- preferred term of Richard Stallman

# Proprietary and closed Software

## ❖ Proprietary:

- Numerous restrictions on use, embodied in EULAs (end user license agreements)
- e.g., How many instances can be run at once, what machines can run on, illegal to reverse engineer, how many clients can connect, need activation, etc.

## ❖ Closed source:

- Only binary/executable version of program is provided
- cannot examine nor modify code

# Free Open Source software examples

- ❖ Linux (Operating System)
- ❖ KDE, GNOME, Xfce (Desktop Environments)
- ❖ Android (Phone Operating System/Environment)
- ❖ Apache (Web Server)
- ❖ MySQL, PostgreSQL (DBMS's/Servers)
- ❖ Perl, PHP, Python (Scripting Languages)
- ❖ Libre Office (Office Software Suite)
- ❖ GCC (GNU Compiler Collection)
- ❖ Octave (GNU Matlab clone)
- ❖ GIMP (image manipulation)
- ❖ Wordpress (blogging)
- ❖ Drupal (content management system)

# Free Open Source software characteristics

- ❖ Often built collaboratively via internet.
- ❖ Support is typically provided via mail lists, newsgroups, and web forums.
- ❖ Most softwares are free of cost.
- ❖ No continual cost for “upgrades.”
- ❖ Not limited to running single instance or having to guarantee license provisions are being met.
- ❖ Many companies exist to provide support or customization for businesses using FOSS.

# Richard M. Stallman (rms)

- ❖ Graduate student and hacker in the MIT AI lab during the late 1970's.
- ❖ One of the original authors of EMACS.
- ❖ Founder of the “free software” movement.
- ❖ Began gnu (“GNU's not UNIX”) project (1984).
- ❖ GNU goal was to build a free complete Unix-like system.
- ❖ Developed first “free software” license:
- ❖ GNU general public license (GPL)

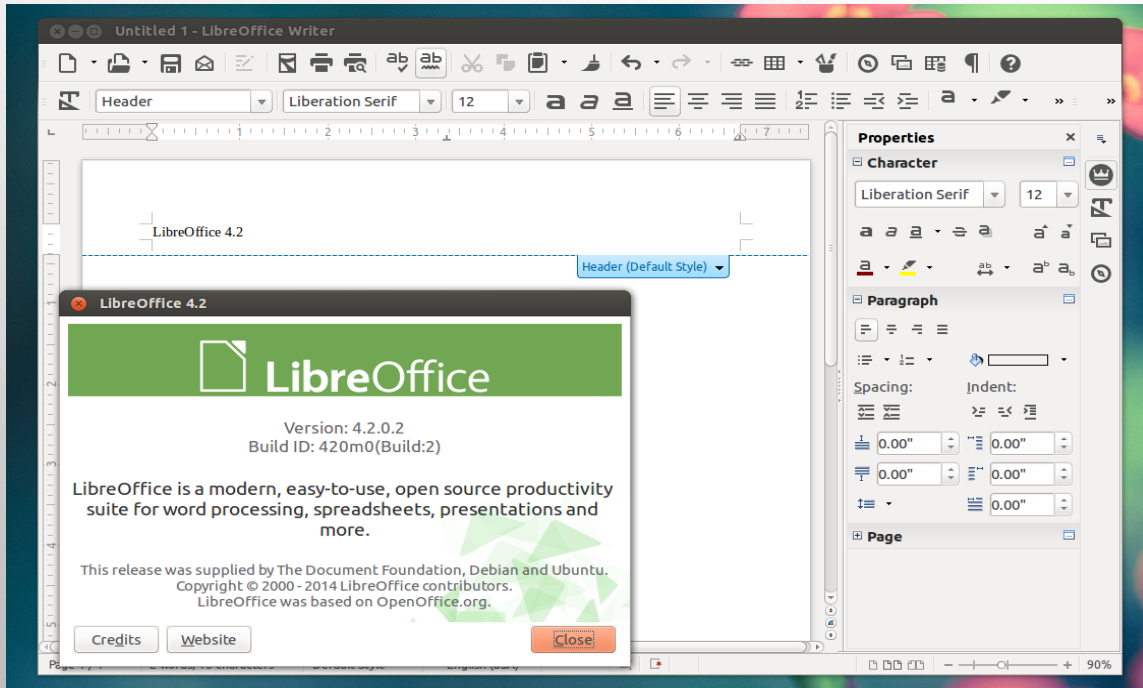
Source: <https://www2.cs.siu.edu/~carver/talks/foss.pdf>



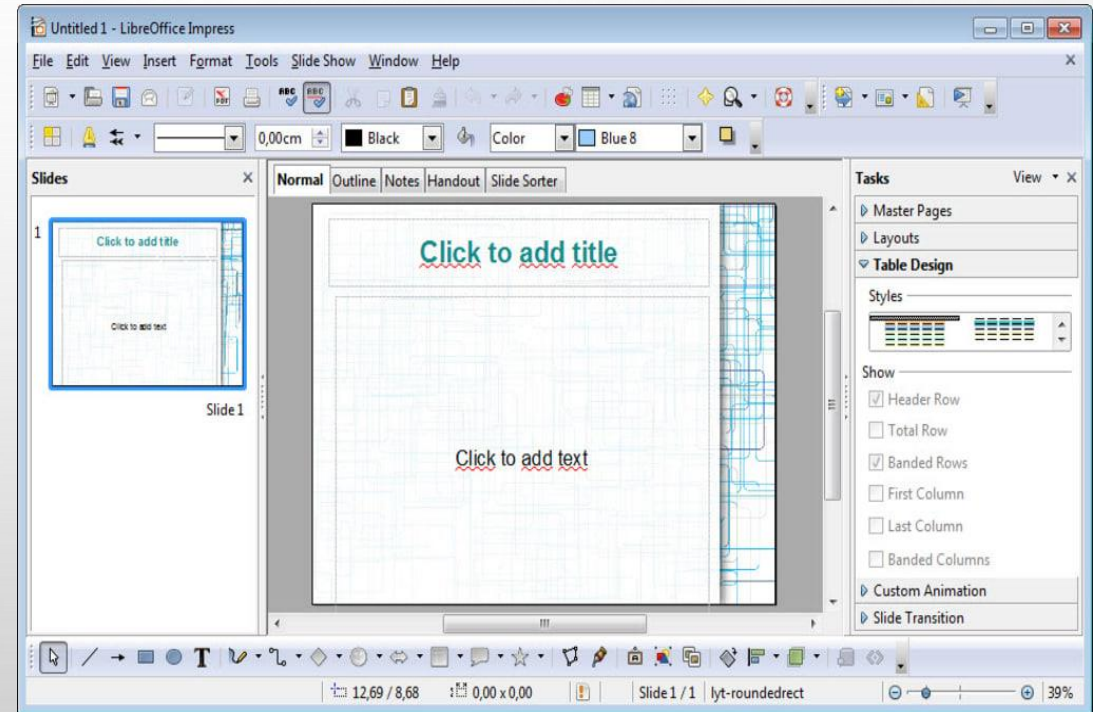
# Libre Office suite

LibreOffice is a powerful and free office suite, [a successor to OpenOffice\(.org\)](https://www.libreoffice.org/), used by millions of people around the world. Its clean interface and feature-rich tools help you unleash your creativity and enhance your productivity. LibreOffice includes several applications that make it the most versatile Free and Open Source office suite on the market: Writer (word processing), Calc (spreadsheets), Impress (presentations), Draw (vector graphics and flowcharts), Base (databases), and Math (formula editing).

Source: <https://www.libreoffice.org/discover/libreoffice/>



Source:  
<https://images.techhive.com/images/article/2015/08/libreoffice-on-ubuntu-100610734-orig.png>

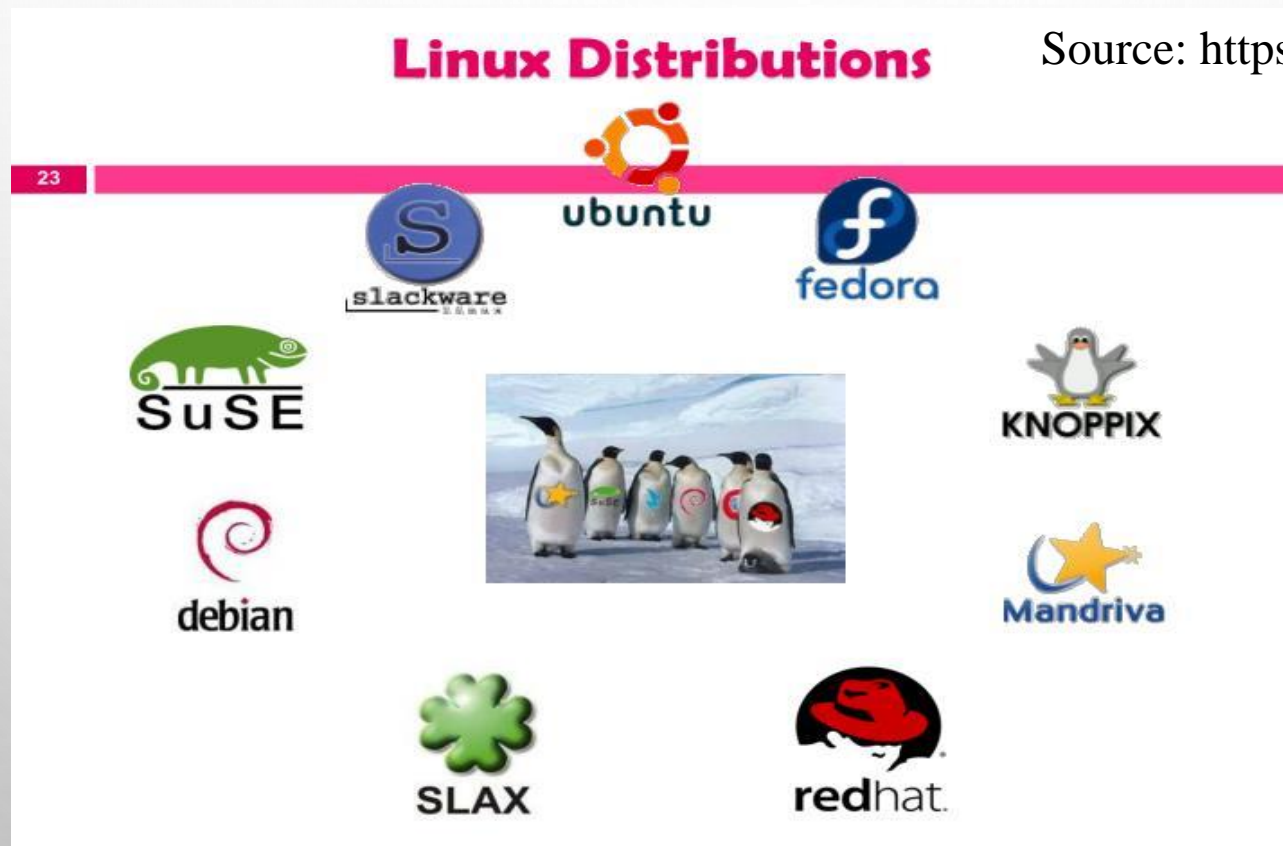


Source: [https://images.sftcdn.net/images/t\\_app-cover-1,f\\_auto/p/ae316ace-96d1-11e6-9a98-00163ed833e7/2967870083/libreoffice-screenshot.jpg](https://images.sftcdn.net/images/t_app-cover-1,f_auto/p/ae316ace-96d1-11e6-9a98-00163ed833e7/2967870083/libreoffice-screenshot.jpg)



# Linux Operating system

Just like Windows, iOS, and Mac OS, Linux is an operating system. In fact, one of the most popular platforms on the planet, Android, is powered by the Linux operating system. An operating system is software that manages all of the hardware resources associated with your desktop or laptop. To put it simply, the operating system manages the communication between your software and your hardware. Without the operating system (OS), the software wouldn't function.



Source: <https://www.linux.com/what-is-linux/>

Source: <http://image1.slideserve.com/1654278/slide23-n.jpg>

# Spoken Tutorial

Home | spoken-tutorial.org

https://spoken-tutorial.org

10<sup>th</sup> Anniversary

Spoken Tutorial

Software Training ▾ Creation ▾ News ▾ Academics ▾ About ▾ Forums Statistics ▾ Login Register

AICTE chairman Prof. Anil D. Sahasrabudhe encouraging to use opensource software. Click [here](#) to see the video.

-- All Courses -- ▾ -- All Languages -- ▾ Search

For the purpose of course selection, go here : [Software Offered](#) Keyword Search

Google MOOCs Research Award 2015

Nomination for HT for Mumbai Awards 2015

Reimagine Education Award 2015

Re-Engineering India Award 2020

# Spoken Tutorial

An initiative of National Mission on Education through ICT, MHRD, Govt. of India, to promote IT literacy through

## Open Source Software.

Learn more about this **free service** using our

### audio-video tutorials

 →

Source: <https://spoken-tutorial.org/>

# Cont.....

The spoken tutorial project is about teaching and learning a particular FOSS (free and open source software) like Linux, Scilab, LaTeX, PHP & MySQL, Java, C/C++, LibreOffice etc. Via an easy video tool - spoken tutorials google award winning MOOC. The salient features of training are many.

- ❖ Students, staff & teachers from schools, colleges, universities, polytechnics, itis, skill centers, NGOs – all can avail the training at very low cost.
- ❖ The method is active learning on computer systems and very suited for remote/distance education.
- ❖ Teachers & students can master the software courses on their own, in their own campus and at their own time.
- ❖ Once one gets started any student or faculty can master the software course and also get certificates.
- ❖ UG, PG or research scholar students and even teachers of science, it, engineering, commerce, management, MCA disciplines can learn any of the FOSS.
- ❖ Typically, the first training at any college is of 2 hours duration. Timing is per the group's convenience.
- ❖ As a first step, the organizer typically a faculty member/teacher must register on the spoken tutorial site and become authorized to request and conduct training in his/her college.
- ❖ Any college which is organizing the training needs to get a computer lab ready with machines that support sound. There is no lower or upper limit on the number of participants. This just depends on the number of computers available. For additional participants, laptops if available can be used.
- ❖ Support from IIT Bombay is available 24x7 through phone, message & e-mail.
- ❖ It is recommended that learners take the online assessment test within 4 to 6 weeks after the 1st training session.
- ❖ The cost is rs.500+GST/per course for faculty/teachers and rs.200+GST/per course for students (except school students).
- ❖ Bulk group discounts and institute level subscription payment models can also be considered after the institute starts the training with a group of learners.

Source: <https://process.spoken-tutorial.org/index.php/Software-Training>

THANK YOU