St. Francis Institute of Technology, Mumbai-400 103
Department of Information Technology
A.Y. 2023-2024
Class: SE-ITA/B, Semester: IV

Subject: **UNIX LAB**

Experiment – 1A: Study of UNIX Operating System.

1. **Aim:** To study UNIX Operating System**.**
2. **Objectives:** After study of this experiment, the student will be able to
   - Understand what UNIX operating system is.
   - Identify the variants of UNIX operating system.
3. **Outcomes:** After study of this experiment, the student will be able to
   - Understand UNIX operating system. (L402.4)
4. **Prerequisite:** None.
5. **Requirements:** Personal Computer, Microsoft Word, Internet Connection.
6. **Pre-Experiment Exercise:**
   Brief Theory:

An operating system(OS) acts as an interface between the computer user and computer hardware. It manages the computer hardware and provides a basis for application programs. It is the first program that gets loaded on a computer when you switch on the system.

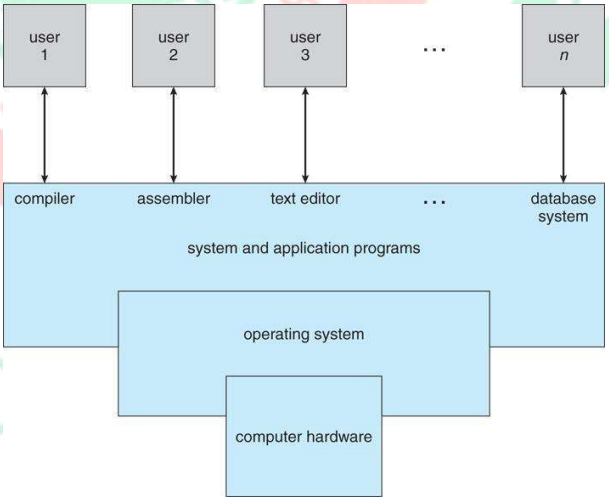

Figure 1: Position of OS in computer system.

Some operating systems are designed to be convenient, others to be efficient, and others some combination of the two. There are many operating systems currently in use, mainly for desktop PCs, server computers, embedded systems and mobile phones. The popular ones are Windows, Linux, UNIX, Macintosh, WinCE, Chrome and Android operating systems.

7. **Laboratory Exercise**
   - **A. Procedure**

     Prepare a document on the following points.
     - **i.** What is UNIX Operating system (OS)?
     - **ii.** History of UNIX OS.
     - **iii.** Flavours of UNIX OS.
     - **iv.** Architecture of UNIX OS.
     - **v.** Advantages of UNIX OS.
     - **vi.** Disadvantages of UNIX OS.
   - **B. Result/Observation**
8. **Post-Experiments Exercise**
   - **A. Extended Theory:**

     Nil.
   - **B. Questions:**
     1. Compare and contrast Windows, UNIX and Macintosh OS.
     2. Differentiate between UNIX and Linux operating system.
   - **C. Conclusion:**
     1. Write what was performed in the experiment.
     2. Mention few applications of what was studied.
     3. Write the significance of the topic studied in the experiment.
   - **D. References:**

     1. https://www.geeksforgeeks.org/introduction-to-unix-system/.

     2. Sumitabha Das, UNIX Concepts and Applications, 3rd Ed., Tata McGraw Hill.

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Experiment – 1B: Installation of UNIX Operating System (Ubuntu OS).

1. **Aim:** To install Ubuntu Operating System**.**
2. **Objectives:** After study of this experiment, the student will be able to
   - Understand installation process of Ubuntu OS.
   - Install Ubuntu operating system.
3. **Outcomes:** After study of this experiment, the student will be able to
   - Install Ubuntu OS in a single boot or dual boot mode alongside Windows OS. (L402.4)
4. **Prerequisite:** Introduction to Ubuntu operating system.
1. **Requirements:** Personal Computer, Ubuntu Operating System set-up, Internet Connection.

2. **Pre-Experiment Exercise:**
   Brief Theory:
   UNIX Operating System
   UNIX is an operating system developed at AT&T Bell Laboratories and released in 1973. It is a portable, multitasking, multiuser and time-sharing operating system. UNIX operating systems are widely used in PCs, servers and mobile devices. The UNIX environment was also an essential element in the development of the Internet and networking.
   Ubuntu OS
   The environment in which the agent acts is called as its task environment. The agent's properties can be grouped under PEAS (Performance, Environment, Actuators, Sensors) representation model. PEAS is a type of model on which an AI agent works upon.

3. **Laboratory Exercise**
   A. **Procedure**
      i. List down the steps to install Ubuntu OS.
   B. **Result/Observation/Installation Screenshots**

4. **Post-Experiments Exercise**
   A. **Extended Theory:**Nil.
   B. **Questions:**
      1. How to create partitions in Ubuntu while installing?
   C. **Conclusion:**
      1. Write what was performed in the experiment.
      2. Mention few applications of what was studied.
      3. Write the significance of the topic studied in the experiment.
   D. **References:**
      1. https://www.geeksforgeeks.org/introduction-to-unix-system/.
      2. https://tutorials.ubuntu.com/tutorial/tutorial-install-ubuntu-desktop#0