Rayat Shikshan Sanstha's

Karmaveer Bhaurao Patil College of Engineering, Satara

Department of Computer science and Engineering

Academic Year	2022-2023
Student Name:	Anuj Rajendra Mane
Class:	S. Y. B. Tech
Division:	A
Roll. No.:	65
PRN	2162701242054
Batch:	A3
Subject	Operating System(BTCOC402)
Semester	IV
Course Coordinator	Prof. Sonmale Minal Suresh

EXPERIMENT – 4

- **AIM:** To study different operating systems

- **THEORY:**

An operating system (OS) is system software that manages computer hardware and software resources and provides common services for computer programs. The operating system is a vital part of the system software in a computer system. It is responsible for the basic functions of the computer, such as managing the file system, memory, and processes. The operating system also provides a platform for running application programs.

There are many different types of operating systems, each with its own strengths and weaknesses. Some popular operating systems include Windows, macOS, Linux.

Types Of Operating Systems:

- Windows is a popular operating system developed by Microsoft. It is the most widely used desktop operating system in the world.
- Mac is a family of personal computers designed, developed, and marketed by Apple Inc. since 1984.
- Linux is a family of open-source Unix-like operating systems based on the Linux kernel, an operating system kernel first released on September 17, 1991, by Linus Torvalds.

Windows:

Windows is a group of several proprietary graphical operating system families, all of which are developed and marketed by Microsoft. Each family caters to a certain sector of the computing industry. Active Windows families include Windows NT and Windows IoT; these may encompass subfamilies, e.g. Windows Server or Windows Embedded Compact (Windows CE). Defunct Windows families include Windows 9x, Windows Mobile and Windows Phone.

The first version of Windows, released in November 1985, was a graphical operating environment built on MS-DOS. Windows has been an essential part of Microsoft's corporate strategy, marketed aggressively by the company. It is the most widely used desktop OS in the world.

Windows 7 is a personal computer operating system that was released by Microsoft on October 22, 2009. It is the successor to Windows Vista and the predecessor to Windows 8. Windows 7 is the seventh major version of the Windows NT line of operating systems, and the successor to Windows Vista. Windows 7 was released to manufacturing on July 22, 2009, and was generally available for retail sale on October 22, 2009.

Windows 10 is a personal computer operating system developed by Microsoft. It is the successor to Windows 8.1 and was released on July 29, 2015. Windows 10 is the first version of Windows to be released as a service, which means that it receives new features and security updates on a regular basis.

Windows 11 is a personal computer operating system developed by Microsoft. It is the successor to Windows 10 and was released on October 5, 2021. Windows 11 is the first version of Windows to require a supported processor with a Trusted Platform Module (TPM) 2.0.

Difference Between Window's 7 Vs Window's 10 And Window's 11:

Feature	Windows 7	Windows 10	Windows 11
User interface	Traditional desktop	Modern interface	Modern interface with centered Start menu and taskbar
Features	Does not support some new features, such as the Edge browser and the Windows Store	Supports new features, such as the Edge browser and the Windows Store	Supports new features, such as Snap Layouts and Widgets
Security	No longer supported by Microsoft	Supported by Microsoft and will continue to receive security updates for the foreseeable future	Supported by Microsoft and will continue to receive security updates for the foreseeable future
Hardware requirements	Lower hardware requirements	Higher hardware requirements than Windows 7	Highest hardware requirements of the three operating systems

Mac Operating System:

macOS is a Unix operating system developed and marketed by Apple Inc. since 2001. It is the primary operating system for Apple's Mac computers. Within the market of desktop and laptop computers it is the second most widely used desktop OS, after Microsoft Windows and ahead of ChromeOS.

macOS is Unix-based, which means that it shares many of the same features and benefits as other Unix-based operating systems, such as Linux. This includes a strong security model, a powerful command-line interface, and a large community of developers.

macOS is also known for its user-friendly interface, which is designed to be easy to use and navigate. The operating system includes a variety of built-in applications, such as the Finder, Mail, Safari, and Photos.

macOS is a powerful and versatile operating system that is well-suited for a variety of tasks. It is a good choice for users who are looking for a secure, reliable, and user-friendly operating system.

Linux Operating System:

Linux is a family of open-source Unix-like operating systems based on the Linux kernel, an operating system kernel first released on September 17, 1991, by Linus Torvalds. Linux is typically packaged in a Linux distribution. Linux distributions include the Linux kernel and supporting system software and libraries, many of which are provided by the GNU Project.

Linux is a Unix-like operating system, which means that it shares many similarities with other Unix-based operating systems, such as macOS and Solaris. Linux is a multi-user, multitasking operating system that supports a wide range of hardware platforms. It is a popular choice for servers, embedded systems, and personal computers.

Linux is an open-source operating system, which means that the source code is freely available for anyone to use, modify, and redistribute. This has led to a large and active community of Linux developers who have contributed to the development of the operating system.

Linux is a powerful and versatile operating system that is well-suited for a variety of tasks. It is a good choice for users who are looking for a secure, reliable, and customizable operating system.

Some of the benefits of using Linux include:

- It is free and open-source software.
- It is highly customizable and can be tailored to meet your specific needs.
- It is very secure and has a strong security model.
- It is reliable and stable.
- It is a multi-user, multitasking operating system.
- It is available for a wide range of hardware platforms.

- **CONCLUSION:**

So, in conclusion, the three major operating systems are Windows, Mac, and Linux. Each has its own strengths and weaknesses, so it's important to choose the right one for your needs.
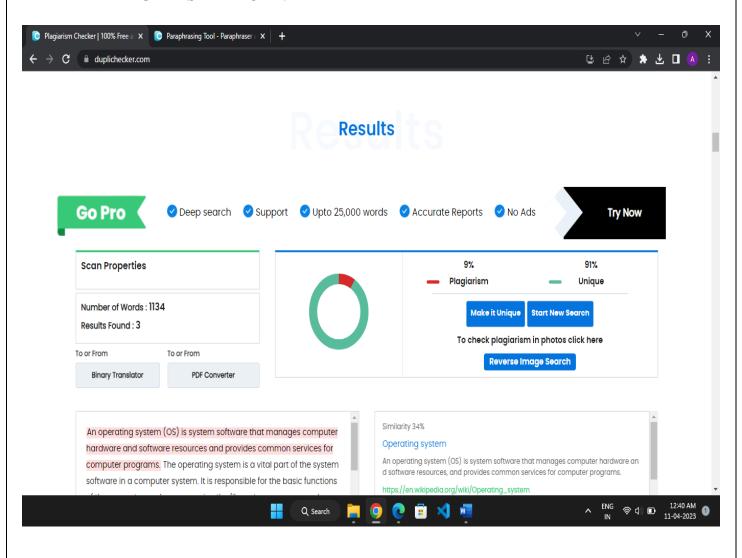
Windows is the most popular operating system, and it's a good choice for people who want a familiar and easy-to-use interface. It also has a wide range of software available, so you're likely to find what you need. However, Windows can be more expensive than other operating systems, and it's not as secure as Linux or Mac.

Mac is a good choice for people who want a stylish and user-friendly operating system. It's also very secure, and it has a wide range of software available. However, Mac can be more expensive than other operating systems, and it's not as widely used as Windows.
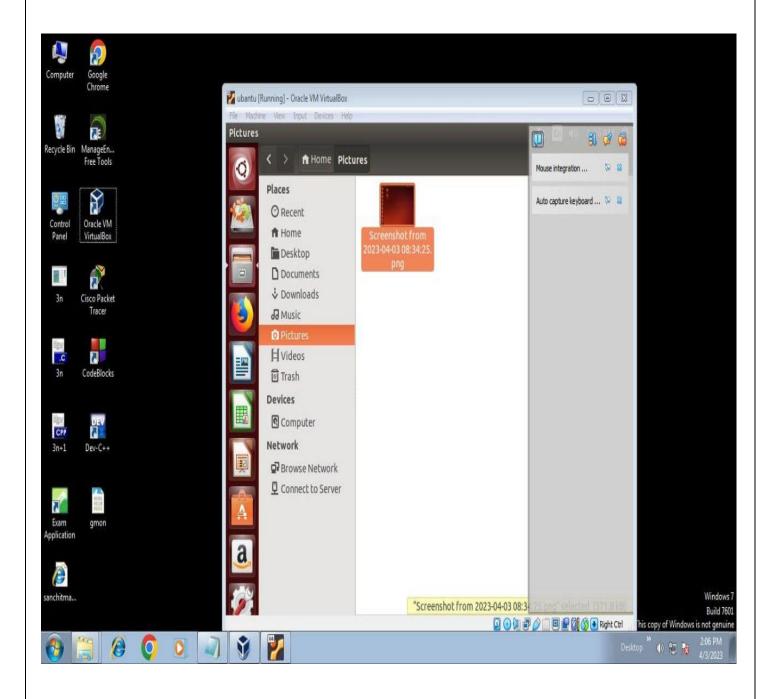
Linux is a good choice for people who want a free and open-source operating system that is secure and customizable. It's also very reliable, and it has a wide range of software available. However, Linux can be more difficult to use than other operating systems, and it's not as widely used as Windows or Mac.

Ultimately, the best operating system for you depends on your individual needs and preferences. If you're not sure which one to choose, I recommend trying out a few different ones to see which one you like best.

- **PLAGIARISM REPORT:**

- **SCREENSHOTS OF VIRTUAL MACHINES:**

Windows 7

Windows 10