**OPERATING SYSTEM (PRACTICALS) – FALL 2012**

**EXPERIMENT 1 – INTRODUCTION TO OPERATING SYSTEMS**

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| **DATE: 17th Sep 2012** | | **Student Name: \_CPL SHEHRYAR SAJID\_** | |
| **Marks Obtained: \_\_\_\_\_** | | **COURSE: BESE 16 \_A\_** | |
| **Deadline: 1400 hrs 17 Sep 2012** | | **Instructor: Engr. Umar Mahmud** | |
|  | **Instructions**   * This is an Individual lab. Write your remarks next to the space provided. * Plagiarism is strictly forbidden. * Submit hard copy of the report before deadline. Marks will be deducted for late submissions. | |  |
| 1. | **Objectives:**   1. Practical usage of different OS. 2. Working with common system tools in Windows and Ubuntu | |  |
| 2. | **Time Required:** 3 hrs | |  |
| 3. | **Software Required:**   1. MS DOS 2. Windows OS 3. Ubuntu OS 4. Android/Symbian/etc | |  |
| 4. | **Operating System** is an intermediary between the user of a compute machine and the underlying hardware. The major need of an OS is to provide a convenient means to the user for machine operation. Moreover, the OS also solves the user problems as well as hides the complexities of the underlying hardware. | |  |
| 5. | Components of the OS are shown as below | |  |
| 6. | Which Operating Systems have you used? Enlist.   1. **Windows(98,ME,XP,Vista,Seven,Server 2008)** 2. **Linux(BackTrack 5 R2, Ubuntu)** 3. **Android(Icecream Sandwich 4.0)** 4. **Symbian** 5. **Mac IOS** | | (0.5) |
| 7. | Is Symbian an OS? Where is it used?  **Symbian is a** [**mobile operating system**](http://en.wikipedia.org/wiki/Mobile_operating_system) **(OS) and** [**computing platform**](http://en.wikipedia.org/wiki/Computing_platform) **designed for** [**smartphones**](http://en.wikipedia.org/wiki/Smartphone)**. It is used in Nokia and Sony Ericson phones.** | | (0.25) |
| 8. | Is Android an OS? Where is it used?  **Android is a** [**Linux**](http://en.wikipedia.org/wiki/Linux)**-based** [**operating system**](http://en.wikipedia.org/wiki/Mobile_operating_system) **designed primarily for** [**touchscreen**](http://en.wikipedia.org/wiki/Touchscreen) **mobile devices such as** [**smartphones**](http://en.wikipedia.org/wiki/Smartphone) **and** [**tablet computers**](http://en.wikipedia.org/wiki/Tablet_computer)**. Mostly used in mobiles by HTC, Samsung, Sony Ericson and LG phones.** | | (0.25) |
| 9. | Disk Operating System (DOS):  **DOS is a single task batch OS. It has a Command-Line Interface (CLI) that allows the user to perform different tasks one at a time. DOS was developed for IBM compatible machines in 1981.** | |  |
| 10. | Press Windows key + r and type cmd. What was the outcome?  **When Windows key + r is pressed ‘run’ is opened and when we type cmd in run Command Prompt is opened i.e. DOS screen appear.** | |  |
| 11. | Type HELP to view a list of commands. | |  |
| 12. | Use the TIME command to set the new time. | |  |
| 13. | Set the title to your name using the TITLE command | |  |
| 14. | Is DOS Case-Sensitive? (True/False)  **No DOS is not case sensitive.** | | (0.25) |
| 15. | Do DOS allow two tasks to be done simultaneously? Give comments?  **NO. It does not support two tasks simultaneously. Only one command can be given and executed simultaneously. So multitasking is not allowed in DOS. However we can only run multiple tasks in multiple DOS windows.** | | (0.5) |
| 16. | Type CALC. What is the outcome?  **Calculator is opened.** | | (0.25) |
| 17. | What happens when we type IPCONFIG? What happens when IPCONFIG/ALL is typed?  **When IPCONFIG is typed it displays brief TCP/IP configuration values of the current network. However if we type IPCONFIG /ALL it provides us with full detailed configuration information of all the network connections.** | | (0.25) |
| 18. | A list of DOS commands can be found here. <http://www.computerhope.com/msdos.htm> | |  |
| 19. | **Windows** is a graphical, multi-tasking OS developed by Microsoft since 1985. | |  |
| 20. | **Task Manager**: Open the task manager and enlist what all information is shown. Write the titles of the tabs and the information provided under these tabs. Show the PID for each process in the Processes Tab.    **Titles of Tabs:**   1. **Applications**   **Displays a list of all applications that have been executed by the user.**   1. **Processes**   **Each application current executing consists of one or more processes. Task Manager shows the processes currently running under the current** [**user account**](mshelp://windows/?id=ca5d36ab-2fa7-49bb-bcc1-fe25cae5fef4#gtmt_user_account_def)**.**   1. **Services**   **This tab displays the list of all the services that are available on the computer and their current status. We can also change the status of these services.**   1. **Performance**   **The Performance tab in Task Manager provides advanced details about how much the computer is using system resources, such as** [**random access memory (RAM)**](mshelp://windows/?id=bbe9242f-fe78-45c7-b4d2-4dd06c8db338#gtmt_random_access_memory__ram__def) **and the** [**central processing unit (CPU)**](mshelp://windows/?id=50c159ff-fc24-456f-b873-e772ae34b8d2#gtmt_central_processing_unit__cpu__def)**.**   1. **Networking**   **This tab displays the advanced details of network utilization and speeds of all available networks in numerical and graphical form.**   1. **Users**   **Displays the list of all the users that are current logged into the computer.** | | (1) |
| 21. | **Processes:** A Process is a program in execution. A program is a combination of code and data. The programs that you may be familiar with have only one process. Programs that hold multiple processes can be written e.g., a program that opens a file on a disk, reads the data and sends it to a receiver through the internet can have the Reading Process and the Sending Process. | |  |
| 22. | Terminate the process WINWORD.EXE. What was the effect?  **Word file is closed and we lose the unsaved data.** | | (0.5) |
| 23. | In the Performance Tab, What are the current CPU usage and the PM Usage?  **CPU usage is 26% and PM usage is 1.15 GB** | | (0.25) |
| 24. | In the users tab? Who all are the current users? Can users be switched in windows? If so how?  **Current User is Tucky. Yes user can be switched in windows by going to start menu and then pressing switch user button which is near the shutdown button.** | | (0.5) |
| 25. | What is the total number of Handles, Threads and Processes currently on your machine? Where did you find it?  **Handles 18254**  **Processes 53**  **Threads 810**  **Found it in performance Tab of windows task manager.** | | (0.5) |
| 26. | **Disk Manager**: Right click on My Computer and select Manage. Go to storage and then Disk Management. What is displayed?  **All the disk drives of my system and their basic information like total capacity, free space, health status, file system, layout etc. is displayed** | | (0.25) |
| 27. | **Disk Defragmenter**: Check to see which disks need to be defragmented?  **All partition of my hard drive needs to be defragmented. I have analysed them all and then made a conclusion.** | | (0.25) |
| 28. | **Device Manager:** Select device manager. Disable and then Enable the sound driver. What facility is provided in Device Manager?  **Device manager allows us to manage all the drivers of the system and to check whether drivers are functioning correctly or not.** | | (0.5) |
| 29. | What are the specifications of your mobile phone? Write the Make, Model, and the OS.   * **HTC Chacha**   **Specifications:-**  **Android OS, v2.3 (Gingerbread)**  **800 MHz CPU**  **512 MB RAM**  **5 MP camera**  **TFT capacitive touchscreen, 256K colours**  **Support Micro SD card up to 32GB** | | (0.25) |
| 30. | Describe how can you get the MAC address of your mobile phone? Write the command/procedure and the MAC address   1. **From the Home screen, press** http://www.htc.com/help/au/howtoimage.aspx?id=155050 **and then tap Settings.** 2. **Tap About phone.** 3. **Select Hardware Information**   **On this screen MAC Address of the Wi-Fi is available and it is “00-23-76-5E-77-4B”** | | (0.5) |
| 31. | **Ubuntu:** Ubuntu is a free, open-source, graphical, multi-tasking Linux-distribution. | |  |
| 32. | Install Ubuntu on your private-machine | |  |
| 33. | **System Monitor:** This tool is the equivalent of task manager in windows. Identify what all information is displayed in System Monitor.   1. **All the information about the system in system tab.** 2. **All the processes in process tab** 3. **All the resources which are currently being used by the system are displayed in resources tab.** 4. **Installed file system is displayed in file systems tab** | | (0.5) |
| 34. | Which is better System Monitor or Task Manager? Give your thoughts.  **Task manager is better than system monitor as it gives the detail and graphical aspects about the current CPU and RAM usage. Task manager also has a user tab which displays the status of user more efficiently than that of system monitor.** | | (1) |
| 35. | Use the Device Manager in Ubuntu. Disable and Enable the Sound Driver. What facility is provided in Device manager?  **First we have to install Device Manger by using a terminal command**  **Device Manager is an application for examining the details of our computer hardware**  **Menu: System > Administration > Device Manager**  **Provides comprehensive details of installed hardware. We can easily enable and disable a hardware device connected to our computer.** | | (0.5) |
| 35. | What did you learn in this experiment?  **Operating system is not just windows but every software that is linking us to hardware is OS e.g. in case of mobile Operating Systems. Furthermore, operating system is very strong software which provides us a large number of features which are built-in and these features and functionalities need to be explored by us users in order to effectively use and maintain our operating systems and effectively utilize the computer resources. Hence this experiment directed us in the right direction for the exploration of operating system’s functionalities, features and working etc.** | | (1) |