**Computer mini book**

**Part 1; computing hall of fame**

**Steve Balmer**

. Joined Microsoft in 1980.

. Became CEO in 2000.

<https://en.wikipedia.org/wiki/Steve_Ballmer>

**Steve Wozniak**,

. Computer programmer and engineer.

. Founded Apple together with Steve Jobs and designed the Apple1 ; the first mass produced PC, and the Apple 2.

<http://en.wikipedia.org/wiki/Steve_Wozniak>

**Steve jobs**,

. Cofounder of apple And CEO and responsible for the financial aspects of the Apple 1 and 2

<http://en.wikipedia.org/wiki/Steve_Jobs>

**Gary Killdal,**

.Invented the operating system CP/M

.When approached by IBM to licence CP/M for their first PC his wife, who was in charge of negotiations didn’t agree to licence CP/M and the deal went to Microsoft instead.

<http://en.wikipedia.org/wiki/Gary_Kildall>

**Dan Bricklin**,

**.** Invented first computer spreadsheat VisiCalc; the killer program that helped sell IBMs first PC.

<http://en.wikipedia.org/wiki/Dan_Bricklin>

**Linus Torvalds**,

The main developer of the Linux kernel, an open source clone of UNIX.

<http://en.wikipedia.org/wiki/Linus_Torvalds>

**Ed Roberts**, .

CEO of Mitts and designer of the Altair 8800 kit computer; first PC.

<http://en.wikipedia.org/wiki/Ed_Roberts_%28computer_engineer%29>

**Part 2; basic Linux commands**

**Users, groups, permissions and installations**

**sudo** is used to proceed any command that requires superuser permissions

**adduser** adds a user to the system, requires sudo.

<sudo adduser joe> adds a user called joe.

<sudo adduser joe developers> adds the joe user to the developers group.

**deluser** deletes a user from the system, requires sudo.

<sudo deluser joe> delets the user called joe.

**addgroup** adds a user group, requires sudo.

<sudo addgroup developers> adds a user group called developers.

**delgroup** deletes a user group, requires sudo.

<sudo delgroup developers> deletes the group called developers.

**chown** changes ownership of a file or directory

<sudo chown joe:developer var/www **>**changes ownership of the var/www directory to the user joe within the developers group.

**chmod** is used to change the permissions of a file or directory. The different groups that permission can be granted to are owner (u); the owner of the file group (g); the user group the owner is part of and others(o); everyone else.

The permissions are read (r); allows a file to be opened and read and a directories content to be listed if execute is also given. Write (w) allows a file to be written or when used on a directory it allows you to create, rename or delete the files within the directory. Execute (x) allows a file to be treated as a program and be executed.

|  |  |  |
| --- | --- | --- |
| owner | group | World (others) |
| **rwx** | **rwx** | **rwx** |

The file permissions are seen in the terminal as

There are 2 ways to change permissions one is symbolic and the other is octal.

Examples of the symbolic method.

<chmod u+x var/www> gives execute privileges to the owner.

<chmod o-rx var/www> removes write and execute permissions from the others category.

<chmod a+rwx var/www> gives read write and execute permissions to everyone.

<chmod u= rw var/www> gives the owner read and write permissions, all other permissions are taken away.

The octal method uses a set of 3 digits ranging from 0 to 7 to set all permissions. Read is given the number 4, write the number 2, and execute the number 1.

<chmod 754 var/www> gives the permissions rwxr-xr--.

**su** signs you in as a different user.

<su joe> signs you in as the user joe

**apt-get** is a Linux program depository it is used to install programs, upgrade installed programs and update your program depository.

<sudo apt-get install apache2> would install Apache.

<sudo apt-get install updates> would update your program depository so that when you install a new program the most recent one will be installed.

<sudo apt-get install upgrades> will install all available upgrades for the progr ams in your system.

<sudo apt-get remove apache2> would remove Apache from your system.

**Files and directories**

**cd** is used to navigate from one directory to another.

<cd ..> moves you to the parent directory of your current directory.

<cd ~> moves you to the home directory.

<cd /etc/default> moves you to the <default> directory within the <etc> directory.

**ls** is used to list directories and files in the current directory.

<ls –la> lists the files and directories, the <l> option is to show a long listing and the <a> option is to show hidden files.

**mkdir** creates a new directory

<mkdir developers home> creates a directory called developers in the home directory.

**touch** creates a file

<touch developers home> creates a file called developers in the home directory.

<touch developers home> creates a file called developers in the home directory.

The **mv** command moves a file or directory deleting the original file, it can also be used to rename a file.

<mv file1 file2> moves the content of file one1 to file2 (in essence renaming file1 as file2)

<mv file1 file2 directory1> moves the contents of file1 and file2 to directory1

The **cp** command copies a file or directory, it is different from **mv** as the original file isn’t deleted.

<cp file1 file2> copies the content of file1 to file2, if file2 already exists it is overwriten.

<cp –I file1 file2> : same as above except that if file2 already exists you get a prompt before it is overwriten.

<cp file1 file2 directory1> copys the contents of file1 and file2 to directory1.

<cp –r directory1 directory2> copies the contents of directory1 to directory2.

The **rm** command is used to delete files or directories.

<rm file1> removes file1

<rm –r directory1> removes directory1 and all its contents.

**tar** is used for archiving files; gathering separate files together and joining them into one file.

<tar cf developers.tar> creates a tar archive of the developers directory.

<tar tf developers.tar> lists the contents of the tar directory.

**tree** shows a tree view of all directories and files under your current directory location, needs to be installed with apt-get.

<tree>

**clear** clears the terminal window.

<clear>

**history** shows a history of all the commands you typed.

<history>

**Using vim text editor**

To start vim type vi followed by the filename you want to view into the command line and press Enter.

The <j> key is used to scroll down the screen and the <k> key to scroll up, you can also use the curser keys.

Typing <:q!> followed by enter exits Vim.

Type <o> to add text.

The <x> key is used to delete a character

The <i> key is used to insert text (it inserts it before the cursor) press Esc to return to normal mode.

The <A> key is used to append text, click Esc to return to normal mode.

<dw> is used to delete a word, move the cursor to the first letter of the word you want to delete and type <dw>.To delete a full line use <dd>.

Press <u> to undo a command.

Use <p> (put command) to place previously deleted text after the cursor.

To save changes type <:w>

To save changes and exit to a file click <:wq> followed by Enter.

Type <:!> followed by a command to execute an external (non vim) command.

**Ubuntu directories**

The /var directory stores logs and databases

The /www directory store configuration files.