

SCR2043 OPERATING SYSTEMS

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 Section : 07

Marks

Instruction: Please do the following activities in sequence. Once completed, ask your lecturer / instructor to verify your results by putting his / her initial.

ATIVITY 1 : BASIC LINUX COMMANDS

[10 Marks]

Write down instructions under command column.

You need a terminal windows to enter all your commands in sequence.

	Task	Command
1	Check your current working directory	<code>pwd</code>
2	List the content of the directory	<code>ls</code>
3	Create a directory with your name.	<code>mkdir Syamira</code>
4	Change working directory to the directory created in previous task 3.	<code>cd/ Syamira</code>
5	To display your current directory now	<code>pwd</code>
6	Create 3 directories using your best friend's name.	<code>mkdir Nurin</code> <code>mkdir Anis</code> <code>mkdir Zati</code>
7	List all created directories available.	<code>ls -d */</code>
8	Create a directories (Water) under one of those directories created in task 5 without change working directory.	<code>mkdir Nurin/Water</code>
9	Create a directories (Banana) under the other one of those directories created in task 5 without change working directory.	<code>mkdir Anis/Banana</code>
10	Change working directory to Banana	<code>cd Anis/Banana</code>
11	Create new directory Papaya under same directory with Banana.	<code>mkdir ../Papaya</code>
12	List all directories created under the parent of current working directory	<code>ls ..</code>
13	From current working directory, create new directory Durian under same directory with Water.	<code>mkdir ../../Nurin/Durian</code>

14	Rename <code>Water</code> into another new name as <code>Watermelon</code> .	<code>mv ../../Nurin/Water ../../Nurin/Watermelon</code>
15	Remove the directories with no sub-directory created in task 5.	<code>rm -r ../../Zati</code>
16	Return back to <code>/home</code> directory	<code>cd ~</code>
17	Complete the file structure of the entire tasks done. (Hint: use <code>tree</code> command)	
	<code>tree Syamira</code>	

ATIVITY 2 : WRITING A PROGRAM / SOURCE CODE [5 Marks]

This activity continuous from the previous activity 1. Write the command in the provided boxes.

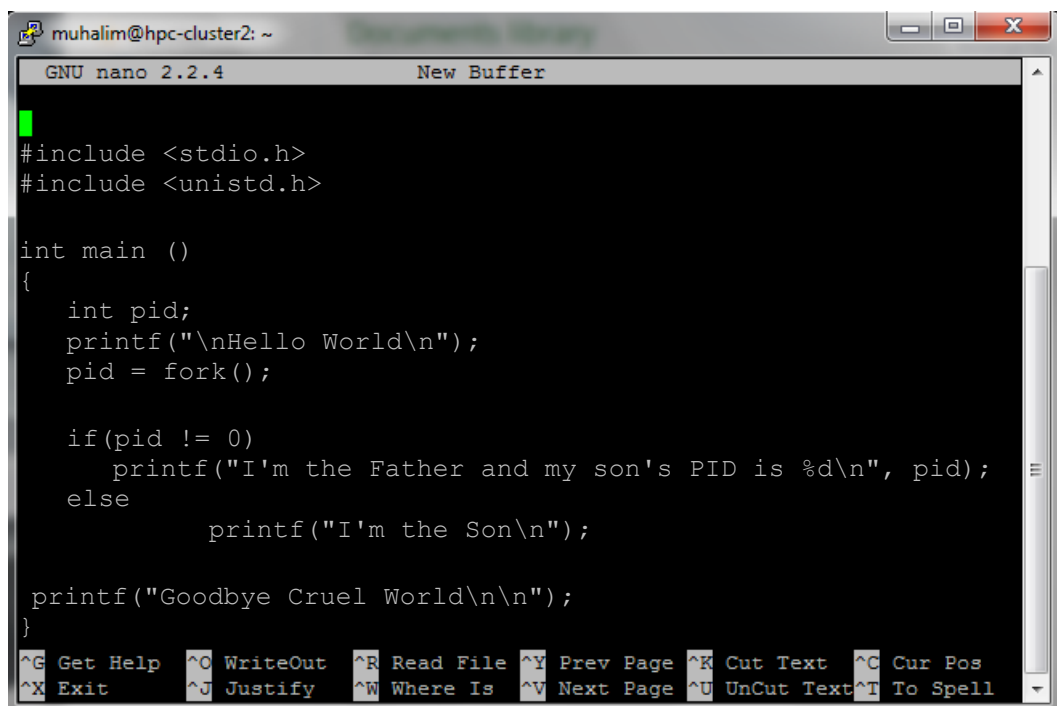
1. Continuing from task (17) in activity 1, go directly to your Banana directory as your working directory.

Command: `cd/ Syamira/Anis/Banana`

2. By using a terminal, open a simple text editor provided in Ubuntu OS by typing the command either `pico` or `nano`. Create a file by using a name of `fork1.c`.

Command: `nano fork1.c`

3. Type the following simple source code correctly. Use the menu given by the editor to do your task.



```
GNU nano 2.2.4 New Buffer
#include <stdio.h>
#include <unistd.h>

int main ()
{
    int pid;
    printf("\nHello World\n");
    pid = fork();

    if(pid != 0)
        printf("I'm the Father and my son's PID is %d\n", pid);
    else
        printf("I'm the Son\n");

    printf("Goodbye Cruel World\n\n");
}

^G Get Help  ^O WriteOut  ^R Read File  ^Y Prev Page  ^K Cut Text   ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is   ^V Next Page  ^U UnCut Text ^T To Spell
```

Source: <http://www.osix.net/modules/article/?id=641>

4. Once you finished typing the source code, save the file using menu `WriteOut` with control button.
5. Make a copy of the file in the same directory with name `fork2.c`.

Command: `cp fork1.c fork2.c`

6. Make another copy of the `fork2.c` file into Durian directory with name `fork3.c`.

```
Command: cp fork2.c ../../Nurin/Durian/fork3.c
```

7. Move the `fork2.c` file in current directory into Papaya directory.

```
Command: mv fork2.c ../Papaya/fork2.c
```

8. View the content of the file `fork1.c` without using the editor.

```
Command: cat fork1.c
```

ATIVITY 3 : COMPILING THE PROGRAM / SOURCE CODE**[5 Marks]**

This activity continuous from the previous activity 2. Write the command in the provided boxes. This activity will show the process of compiling the source code written in C programming language.

1. By using a terminal, change your working directory to `Durian` directory. You need to compile the `fork3.c` file in that directory.

Command: `cd ../../Nurin/Durian`

2. To compile the source code, you need a compiling command for C programming, which is `gcc`. Compile the `fork3.c` file using that command.

Command: `gcc fork3.c`

3. Execute the output file generated in the directory. If you didn't specify the output , a default filename of `a.out` will be produced

Command: `./a.out`

4. Re-compile the `fork3.c`, and do specify the output filename in the command as `fork3result` (use `-o` option).

Command: `gcc fork3.c -o fork3result`

5. Execute the specified output file generated in previous step.

Command: `./fork3result`

6. From current working directory, compile the `fork1.c` file in `Banana` directory. Do specify the output filename as `fork1result`.

Command: `gcc ../../Anis/Banana/fork1.c -o ../../Anis/Banana/fork1result`

7. Execute the output file generated (`fork1result`.)

Command: `../../Anis/Banana/fork1result`

8. Remove the `a.out` file in related directory.

Command: `rm a.out`

9. Redraw the final directories and files generated. (Hint: use `tree` command)

.End of Lab1