



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

FACULTY OF COMPUTING
UTM Johor Bahru

LAB 1 : INTRODUCTION TO LINUX

SECR2043 - OPERATING SYSTEMS

Semester 2 2024/2025

Section 01

NAME	MATRIC NUMBER
AMELIA ADLINA BINTI AZRUL	A23CS0043

Lecturer: **DR. MUHAMMAD ZAFRAN BIN MUHAMMAD ZALY SHAH**

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ACTIVITY 1: BASIC LINUX COMMANDS

1.	Display your current working directory	
	Command	Output
	pwd	<pre>amelia@secr2043:~\$ pwd /home/amelia amelia@secr2043:~\$</pre>
2.	List all the files and directories in your home directory, including hidden ones.	
	Command	Output
	ls -a ~	<pre>amelia@secr2043:~\$ ls -a ~ . .bash_history .bashrc .lessht .ssh .. .bash_logout .cache .profile .sudo_as_admin_successful amelia@secr2043:~\$ </pre>
3.	Create a new directory named "os_lab" in your home directory.	
	Command	Output
	mkdir os_lab	<pre>amelia@secr2043:~\$ mkdir os_lab amelia@secr2043:~\$ ls -a ~ . .bash_history .bashrc .lessht .ssh os_lab .. .bash_logout .cache .profile .sudo_as_admin_successful amelia@secr2043:~\$ </pre>
4.	Change your current working directory to "os_lab".	
	Command	Output
	Cd os_lab	<pre>amelia@secr2043:~\$ cd os_lab amelia@secr2043:~/os_lab\$ pwd /home/amelia/os_lab amelia@secr2043:~/os_lab\$</pre>
5.	Create a new file named "hello.txt" in "os_lab" and write "Hello, world!" in it.	
	Command	Output
	Nano hello.txt	<pre>amelia@secr2043:~/os_lab\$ nano hello.txt amelia@secr2043:~/os_lab\$ ls hello.txt</pre>

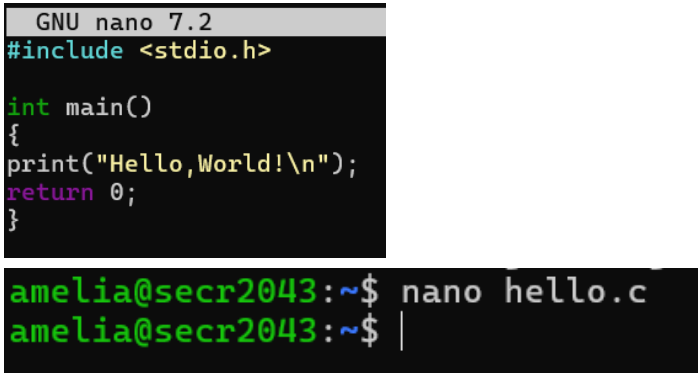
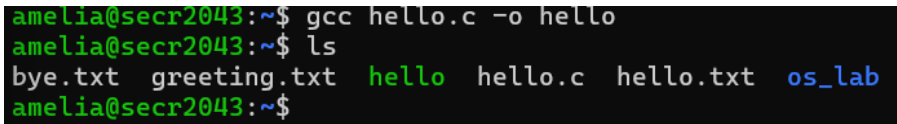
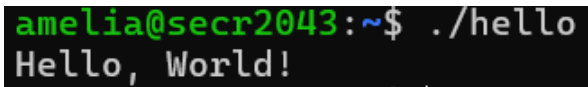
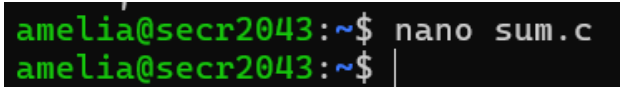
6.	Display the content of "hello.txt".	
	Command	Output
	cat hello.txt	<pre>amelia@secr2043:~/os_lab\$ cat hello.txt Hello,World!</pre>
7.	Copy "hello.txt" to another file named "hello_copy.txt" in the same directory.	
	Command	Output
	cp hello.txt hello_copy.txt	<pre>amelia@secr2043:~/os_lab\$ ls hello.txt amelia@secr2043:~/os_lab\$ cp hello.txt hello_copy.txt amelia@secr2043:~/os_lab\$ ls hello.txt hello_copy.txt amelia@secr2043:~/os_lab\$</pre>
8.	Rename "hello_copy.txt" to "hello_bak.txt"	
	Command	Output
	mv hello_copy.txt hello_bak.txt	<pre>amelia@secr2043:~/os_lab\$ mv hello_copy.txt hello_bak.txt amelia@secr2043:~/os_lab\$ ls hello.txt hello_bak.txt</pre>
9.	Delete "hello.txt".	
	Command	Output
	rm hello.txt	<pre>amelia@secr2043:~/os_lab\$ rm hello.txt amelia@secr2043:~/os_lab\$ ls hello_bak.txt</pre>
10.	Display your home directory with additional information, together with subdirectories contents.	
	Command	Output
	ls -R /home	<pre>amelia@secr2043:~\$ ls -R /home /home: amelia farkhana mahyuddin student /home/amelia: os_lab /home/amelia/os_lab: hello_bak.txt ls: cannot open directory '/home/farkhana': Permission denied ls: cannot open directory '/home/mahyuddin': Permission denied ls: cannot open directory '/home/student': Permission denied amelia@secr2043:~\$ </pre>
	Total Mark:	

ACTIVITY 2: TEXT FILE MANIPULATION

1.	Create an empty file named "hello.txt" in the current working directory.	
	Command	Output
	touch hello.txt	<pre>amelia@secr2043:~\$ touch hello.txt amelia@secr2043:~\$ ls hello.txt os_lab amelia@secr2043:~\$ </pre>
2.	Write the text "Hello World" to "hello.txt" using echo.	
	Command	Output
	echo "Hello, world" > hello.txt	<pre>amelia@secr2043:~\$ echo "Hello, world" > hello.txt amelia@secr2043:~\$ echo "This is a test" >> hello.txt amelia@secr2043:~\$ </pre>
3.	Append the text "This is a test" to "hello.txt" using echo.	
	Command	Output
	echo "This is a test" >> hello.txt	<pre>amelia@secr2043:~\$ echo "Hello, world" > hello.txt amelia@secr2043:~\$ echo "This is a test" >> hello.txt amelia@secr2043:~\$ </pre>
4.	Display the contents of "hello.txt" using cat.	
	Command	Output
	cat hello.txt	<pre>amelia@secr2043:~\$ cat hello.txt Hello, world This is a test amelia@secr2043:~\$ </pre>
5.	Create another file named "bye.txt" with the text "Goodbye World" using echo.	
	Command	Output
	touch bye.txt echo "Goodbye World" > bye.txt	<pre>amelia@secr2043:~\$ touch bye.txt amelia@secr2043:~\$ echo "Goodbye World" > bye.txt amelia@secr2043:~\$ </pre>
6.	Concatenate the contents of "hello.txt" and "bye.txt" and display them using cat.	

	Command	Output
	cat hello.txt bye.txt	<pre>amelia@secr2043:~\$ cat hello.txt bye.txt Hello, world This is a test Goodbye World</pre>
7.	Concatenate the contents of "hello.txt" and "bye.txt" and write them to a new file named "greeting.txt" using cat.	
	Command	Output
	cat hello.txt bye.txt > greeting.txt	<pre>amelia@secr2043:~\$ cat hello.txt bye.txt > greeting.txt</pre>
8.	Display the contents of "greeting.txt" using cat.	
	Command	Output
	cat greeting.txt	<pre>amelia@secr2043:~\$ cat greeting.txt Hello, world This is a test Goodbye World</pre>
9.	Edit the file "greeting.txt" using Nano and change the word "World" to your name in both lines.	
	Command	Output
	nano greeting.txt	<pre>amelia@secr2043:~\$ nano greeting.txt GNU nano 7.2 Hello, Amelia This is a test Goodbye Amelia</pre>
10.	Display the modified contents of "greeting.txt" using cat.	
	Command	Output
	cat greeting.txt	<pre>amelia@secr2043:~\$ cat greeting.txt Hello, Amelia This is a test Goodbye Amelia amelia@secr2043:~\$</pre>
	Total Mark:	

ACTIVITY 3: WRITE, COMPILE AND RUN C PROGRAM

1.	Write a C program that prints "Hello World" to the standard output using Nano and save it as "hello.c".	
	Command	Output
	nano hello.c	 <pre>GNU nano 7.2 #include <stdio.h> int main() { print("Hello,World!\n"); return 0; } amelia@secr2043:~\$ nano hello.c amelia@secr2043:~\$ </pre>
2.	Compile the program "hello.c" using gcc and generate an executable file named "hello".	
	Command	Output
	gcc hello.c -o hello	 <pre>amelia@secr2043:~\$ gcc hello.c -o hello amelia@secr2043:~\$ ls bye.txt greeting.txt hello hello.c hello.txt os_lab amelia@secr2043:~\$</pre>
3.	Run the executable file "hello" and display its output.	
	Command	Output
	./hello	 <pre>amelia@secr2043:~\$./hello Hello, World!</pre>
4.	Write a C program that takes two integers as command line arguments and prints their sum to the standard output using Nano and save it as "sum.c"	
	Command	Output
	nano sum.c	 <pre>amelia@secr2043:~\$ nano sum.c amelia@secr2043:~\$ </pre>

		<pre>#include <stdio.h> int main() { int x,y; printf("Enter first number: "); scanf("%d", &x); printf("Enter second number: "); scanf("%d", &y); int sum = x+y; printf("The sum of %d and %d is: %d\n", x,y,sum); return 0; }</pre>
5.	Compile the program "sum.c" using gcc and generate an executable file named "sum".	
	Command	Output
	gcc sum.c -o sum	<pre>amelia@secr2043:~\$ gcc sum.c -o sum amelia@secr2043:~\$ ls bye.txt greeting.txt hello hello.c hello.txt os_lab sum sum.c</pre>
6.	Run the executable file "sum" with 10 and 20 as arguments and display its output.	
	Command	Output
	./sum	<pre>amelia@secr2043:~\$./sum Enter first number: 10 Enter second number: 20 The sum of 10 and 20 is: 30</pre>
7.	Run the executable file "sum" with -5 and 15 as arguments and display its output.	
	Command	Output
	./sum	<pre>amelia@secr2043:~\$./sum Enter first number: -5 Enter second number: 15 The sum of -5 and 15 is: 10</pre>
8.	Write a C program that reads a line of text from the standard input and prints it to the standard output using Nano and save it as "echo.c".	
	Command	Output
	nano echo.c	<pre>amelia@secr2043:~\$ nano echo.c</pre>

		<pre>#include <stdio.h> int main() { char echo[50]; printf("Enter the text: "); fgets(echo,50,stdin); printf("The text you input is: %s\n", echo); return 0; }</pre>
9.	Compile the program "echo.c" using gcc and generate an executable file named "echo".	
	Command	Output
	gcc echo.c -o echo	<pre>amelia@secr2043:~\$ gcc echo.c -o echo amelia@secr2043:~\$ ls bye.txt echo.c hello hello.txt sum echo greeting.txt hello.c os_lab sum.c amelia@secr2043:~\$ </pre>
10.	Run the executable file "echo", type "Hello World" as input and display its output.	
	Command	Output
	./echo	<pre>amelia@secr2043:~\$./echo Enter the text: Hello World The text you input is: Hello World</pre>
	Total Mark:	