UTM
UNIVERSITI TEKNOLOGI MALAYSIA

FACULTY OF COMPUTING
UTM Johor Bahru

LAB 1 : INTRODUCTION TO LINUX

SECR2043 - OPERATING SYSTEMS

Semester 2 2024/2025

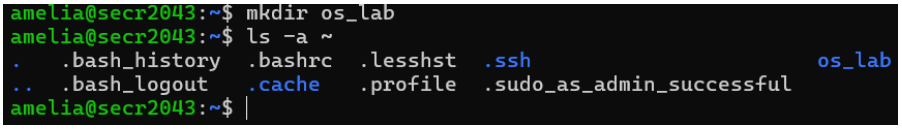
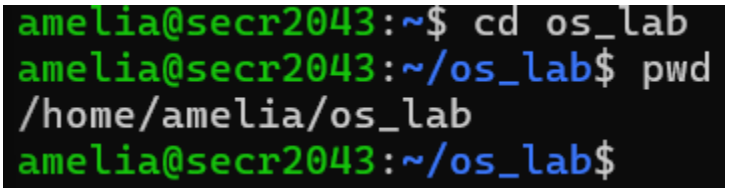
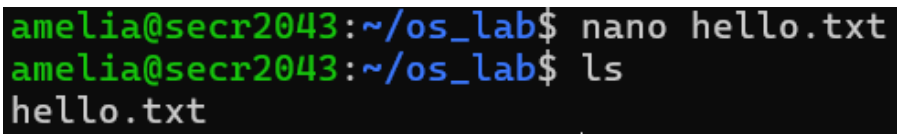
Section 01

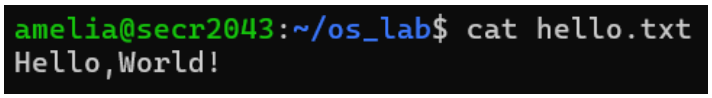
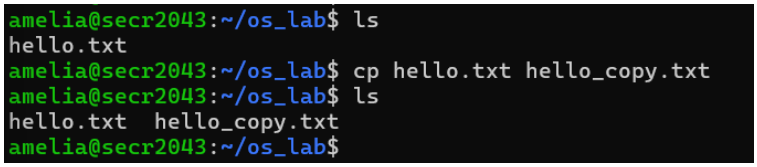
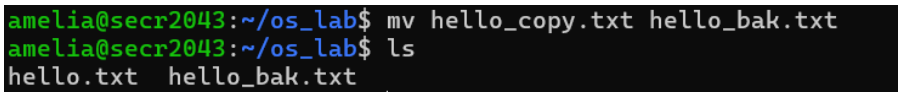
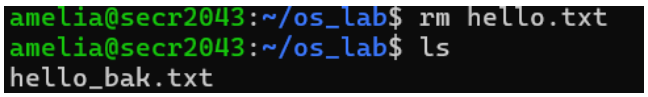
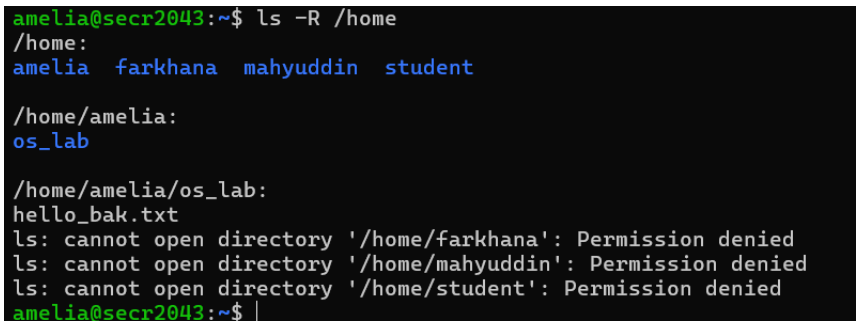
NAME	MATRIC NUMBER
AMELIA ADLINA BINTI AZRUL	A23CS0043

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

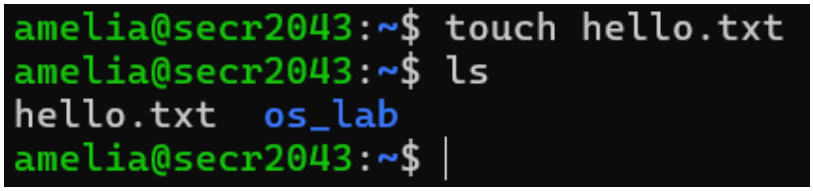
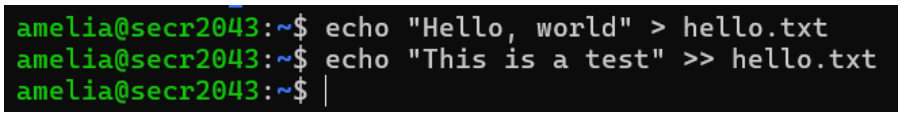
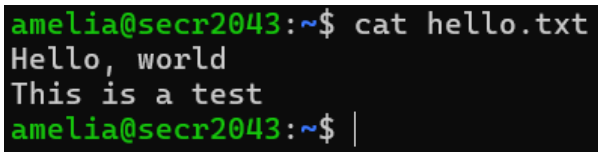
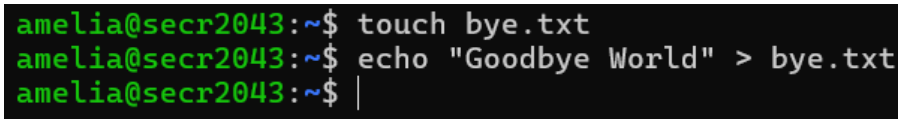
Date: 25th April 2025

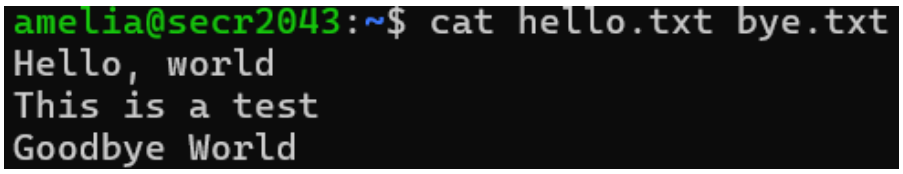
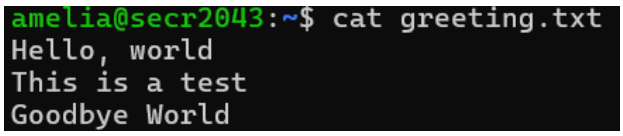
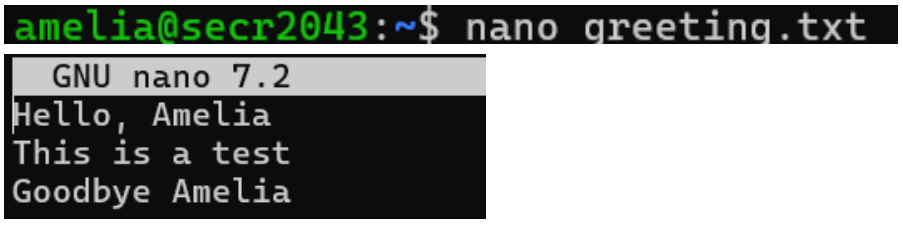
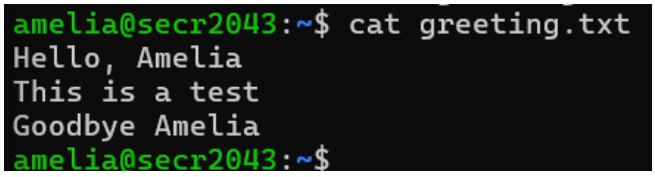
ACTIVITY 1: BASIC LINUX COMMANDS

<table>
<tr><td>1.</td><td colspan="2">Display your current working directory</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>pwd</td><td> 
</td></tr>
<tr><td>2.</td><td colspan="2">List all the files and directories in your home directory, including hidden ones.</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>ls –a ~</td><td> 
</td></tr>
<tr><td>3.</td><td colspan="2">Create a new directory named "os_lab" in your home directory.</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>mkdir os_lab</td><td> 
</td></tr>
<tr><td>4.</td><td colspan="2">Change your current working directory to "os_lab".</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>Cd os_lab</td><td> 
</td></tr>
<tr><td>5.</td><td colspan="2">Create a new file named "hello.txt" in "os_lab" and write "Hello, world!" in it.</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>Nano hello.txt</td><td> 
</td></tr>
</table>

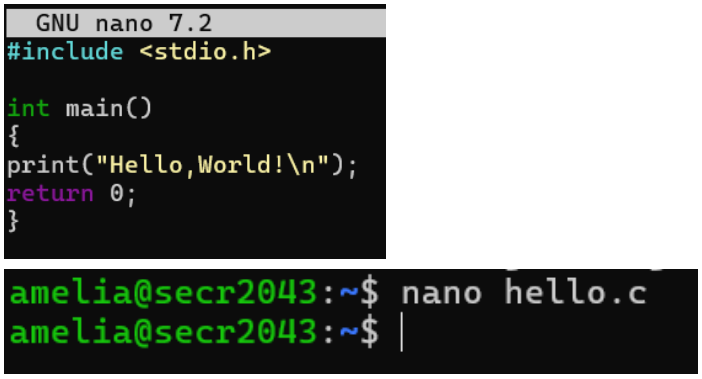
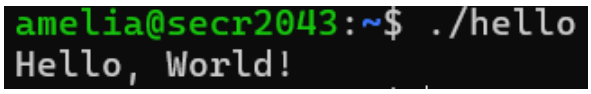
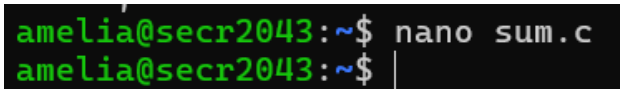
<table>
<tr><td rowspan="3">6.</td><td colspan="2">Display the content of "hello.txt".</td></tr>
<tr><td>Command</td><td>Output</td></tr>
<tr><td>cat hello.txt</td><td> 
</td></tr>
<tr><td rowspan="3">7.</td><td colspan="2">Copy "hello.txt" to another file named "hello_copy.txt" in the same directory.</td></tr>
<tr><td>Command</td><td>Output</td></tr>
<tr><td>cp hello.txt hello_copy.txt</td><td> 
</td></tr>
<tr><td rowspan="3">8.</td><td colspan="2">Rename "hello_copy.txt" to "hello_bak.txt"</td></tr>
<tr><td>Command</td><td>Output</td></tr>
<tr><td>mv hello_copy.txt hello_bak.txt</td><td> 
</td></tr>
<tr><td rowspan="3">9.</td><td colspan="2">Delete "hello.txt".</td></tr>
<tr><td>Command</td><td>Output</td></tr>
<tr><td>rm hello.txt</td><td> 
</td></tr>
<tr><td rowspan="3">10.</td><td colspan="2">Display your home directory with additional information, together with subdirectories contents.</td></tr>
<tr><td>Command</td><td>Output</td></tr>
<tr><td>ls -R /home</td><td> 
</td></tr>
<tr><td></td><td>Total Mark:</td><td></td></tr>
</table>

ACTIVITY 2: TEXT FILE MANIPULATION

<table>
<tr><td rowspan="2">1.</td><td colspan="2">Create an empty file named "hello.txt" in the current working directory.</td></tr>
<tr><td>Command</td><td>Output</td></tr>
<tr><td></td><td>touch hello.txt</td><td> 
</td></tr>
<tr><td rowspan="2">2.</td><td colspan="2">Write the text "Hello World" to "hello.txt" using echo.</td></tr>
<tr><td>Command</td><td>Output</td></tr>
<tr><td></td><td>echo "Hello, world" > hello.txt</td><td> 
</td></tr>
<tr><td rowspan="2">3.</td><td colspan="2">Append the text "This is a test" to "hello.txt" using echo.</td></tr>
<tr><td>Command</td><td>Output</td></tr>
<tr><td></td><td>echo "This is a test" >> hello.txt</td><td> 
</td></tr>
<tr><td rowspan="2">4.</td><td colspan="2">Display the contents of "hello.txt" using cat.</td></tr>
<tr><td>Command</td><td>Output</td></tr>
<tr><td></td><td>cat hello.txt</td><td> 
</td></tr>
<tr><td rowspan="2">5.</td><td colspan="2">Create another file named "bye.txt" with the text "Goodbye World" using echo.</td></tr>
<tr><td>Command</td><td>Output</td></tr>
<tr><td></td><td>touch bye.txt
echo "Goodbye World" > bye.txt</td><td> 
</td></tr>
<tr><td>6.</td><td colspan="2">Concatenate the contents of "hello.txt" and "bye.txt" and display them using cat.</td></tr>
</table>

	Command	Output
	cat hello.txt bye.txt	
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	
8.	Display the contents of "greeting.txt" using cat.	
	Command	Output
	cat greeting.txt	
9.	Edit the file "greeting.txt" using Nano and change the word "World" to your name in both lines.	
	Command	Output
	nano greeting.txt	
10.	Display the modified contents of "greeting.txt" using cat.	
	Command	Output
	cat greeting.txt	
	Total Mark:	

ACTIVITY 3: WRITE, COMPILE AND RUN C PROGRAM

<table>
<tr><td>1.</td><td colspan="2">Write a C program that prints "Hello World" to the standard output using Nano and save it as "hello.c".</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>nano hello.c</td><td> 
</td></tr>
<tr><td>2.</td><td colspan="2">Compile the program "hello.c" using gcc and generate an executable file named "hello".</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>gcc hello.c -o hello</td><td> 
</td></tr>
<tr><td>3.</td><td colspan="2">Run the executable file "hello" and display its output.</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>./hello</td><td> 
</td></tr>
<tr><td>4.</td><td colspan="2">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"</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>nano sum.c</td><td> 
</td></tr>
</table>

<table>
<tr><td></td><td></td><td>

```c
#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;
}
```

</td></tr>
<tr><td>5.</td><td colspan="2">Compile the program "sum.c" using gcc and generate an executable file named "sum".</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>gcc sum.c -o sum</td><td>

```
amelia@secr2043:~$ gcc sum.c -o sum
amelia@secr2043:~$ ls
bye.txt  greeting.txt  hello  hello.c  hello.txt  os_lab  sum  sum.c
```

</td></tr>
<tr><td>6.</td><td colspan="2">Run the executable file "sum" with 10 and 20 as arguments and display its output.</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>./sum</td><td>

```
amelia@secr2043:~$ ./sum
Enter first number: 10
Enter second number: 20
The sum of 10 and 20 is: 30
```

</td></tr>
<tr><td>7.</td><td colspan="2">Run the executable file "sum" with -5 and 15 as arguments and display its output.</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>./sum</td><td>

```
amelia@secr2043:~$ ./sum
Enter first number: -5
Enter second number: 15
The sum of -5 and 15 is: 10
```

</td></tr>
<tr><td>8.</td><td colspan="2">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".</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>nano echo.c</td><td>

```
amelia@secr2043:~$ nano echo.c
```

</td></tr>
</table>

<table>
<tr><td></td><td></td><td>

```c
#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;
}
```

</td></tr>
<tr><td>9.</td><td colspan="2">Compile the program "echo.c" using gcc and generate an executable file named "echo".</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>gcc echo.c -o echo</td><td>

```
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:~$
```

</td></tr>
<tr><td>10.</td><td colspan="2">Run the executable file "echo", type "Hello World" as input and display its output.</td></tr>
<tr><td></td><td>Command</td><td>Output</td></tr>
<tr><td></td><td>./echo</td><td>

```
amelia@secr2043:~$ ./echo
Enter the text: Hello World
The text you input is: Hello World
```

</td></tr>
<tr><td></td><td>Total Mark:</td><td></td></tr>
</table>