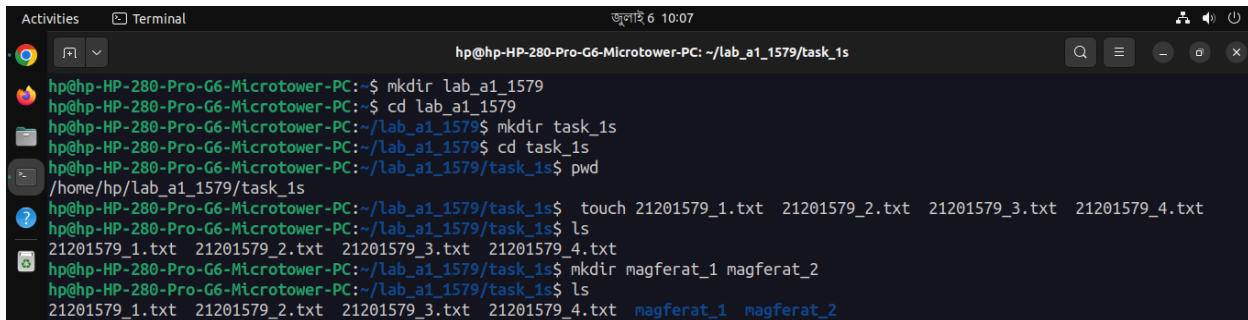


Task - 1 (a)

```
-pwd
-mkdir lab_a1_1579
-cd lab_a11579
-mkdir task_1s
-cd task_1s
- touch 21201579_1.txt      21201579_2.txt      21201579_3.txt      21201579_4.txt
- ls
-mkdir magferat_1 magferat_2
-ls
```



The screenshot shows a terminal window titled "Terminal" with the user "hp" on a system "hp-HP-280-Pro-G6-Microtower-PC". The terminal output matches the commands listed in the previous block, showing the successful execution of directory creation, file creation, and listing operations.

```
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/$ mkdir lab_a1_1579
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/$ cd lab_a1_1579
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/lab_a1_1579$ mkdir task_1s
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/lab_a1_1579$ cd task_1s
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/lab_a1_1579/task_1s$ pwd
/home/hp/lab_a1_1579/task_1s
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/lab_a1_1579/task_1s$ touch 21201579_1.txt 21201579_2.txt 21201579_3.txt 21201579_4.txt
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/lab_a1_1579/task_1s$ ls
21201579_1.txt 21201579_2.txt 21201579_3.txt 21201579_4.txt
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/lab_a1_1579/task_1s$ mkdir magferat_1 magferat_2
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/lab_a1_1579/task_1s$ ls
21201579_1.txt 21201579_2.txt 21201579_3.txt 21201579_4.txt magferat_1 magferat_2
```

```
- mv 21201579_1.txt 21201579_2.txt 21201579_3.txt magferat_1
- ls
- ls magferat_1
- cp magferat_1/21201579_1.txt magferat_1/21201579_2.txt magferat_2
- ls magferat_2
- mkdir magferat_3
- cp -r magferat_1 magferat_3
- cd magferat_3/magferat_1
-ls -l
- chmod go+rx-w *
```

```
Activities Terminal  জুলাই 6 10:20
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/lab_a1_1579/task_1s/magferat_3/magferat_1

hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s$ mv 21201579_1.txt 21201579_2.txt 21201579_3.txt magferat_1
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s$ ls magferat_1
21201579_1.txt 21201579_2.txt 21201579_3.txt
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s$ ls
21201579_4.txt magferat_1 magferat_2
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s$ cp magferat_1/21201579_1.txt magferat_1/21201579_2.txt magferat_2
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s$ ls magferat_2
21201579_1.txt 21201579_2.txt
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s$ mkdir magferat_3
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s$ cp -r magferat_1 magferat_3
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s$ cd magferat_3/magferat_1
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s/magferat_3/magferat_1$ ls
21201579_1.txt 21201579_2.txt 21201579_3.txt
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s/magferat_3/magferat_1$ ls -l
total 0
-rw-rw-r-- 1 hp hp 0 জুলাই 6 10:17 21201579_1.txt
-rw-rw-r-- 1 hp hp 0 জুলাই 6 10:17 21201579_2.txt
-rw-rw-r-- 1 hp hp 0 জুলাই 6 10:17 21201579_3.txt
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s/magferat_3/magferat_1$ chmod go+rx-w *
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s/magferat_3/magferat_1$ ls -l
total 0
-rw-r-xr-x 1 hp hp 0 জুলাই 6 10:17 21201579_1.txt
-rw-r-xr-x 1 hp hp 0 জুলাই 6 10:17 21201579_2.txt
-rw-r-xr-x 1 hp hp 0 জুলাই 6 10:17 21201579_3.txt
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s/magferat_3/magferat_1$
```

- cd ..

ls -R

```
Activities Terminal  জুলাই 6 10:34
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/lab_a1_1579/task_1s/magferat_3

hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s/magferat_3/magferat_1$ cd ..
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s/magferat_3$ ls -R
.:
magferat_1
./magferat_1:
21201579_1.txt 21201579_2.txt 21201579_3.txt
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s/magferat_3$
```

- pwd
- cd /
- sudo mv /home/hp/lab_a1_1579/task_1s/magferat_3* root
- sudo su
- cd root
- ls -R
- exit

```
root@hp-HP-280-Pro-G6-Microtower-PC: ~  
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s/magferat_3/magferat_1$ cd ../  
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s/magferat_3$ ls -R  
.:  
magferat_1  
./magferat_1:  
21201579_1.txt 21201579_2.txt 21201579_3.txt  
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s/magferat_3$ pwd  
/home/hp/lab_a1_1579/task_1s/magferat_3  
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1s/magferat_3$ cd /  
hp@hp-HP-280-Pro-G6-Microtower-PC:/$ ls  
bin cdrom etc lib lib64 lost+found mnt proc run snap sys usr  
boot dev home lib32 libx32 media opt root sbin srv tmp var  
hp@hp-HP-280-Pro-G6-Microtower-PC:/$ ^C  
hp@hp-HP-280-Pro-G6-Microtower-PC:/$ ^C  
hp@hp-HP-280-Pro-G6-Microtower-PC:/$ mv /home/hp/lab_a1_1579/task_1s/magferat_3* root  
mv: cannot stat 'root/magferat_3': Permission denied  
hp@hp-HP-280-Pro-G6-Microtower-PC:/$ sudo mv /home/hp/lab_a1_1579/task_1s/magferat_3* root  
[sudo] password for hp:  
hp@hp-HP-280-Pro-G6-Microtower-PC:/$ ls /home/hp/lab_a1_1579/task_1s/magferat_3  
ls: cannot access '/home/hp/lab_a1_1579/task_1s/magferat_3': No such file or directory  
hp@hp-HP-280-Pro-G6-Microtower-PC:/$ sudo su  
root@hp-HP-280-Pro-G6-Microtower-PC:/# cd root  
root@hp-HP-280-Pro-G6-Microtower-PC:~# ls  
magferat_3 snap  
root@hp-HP-280-Pro-G6-Microtower-PC:~# ls magferat_3  
magferat_1  
root@hp-HP-280-Pro-G6-Microtower-PC:~# ls -R  
.:  
magferat_3 snap  
./magferat_3:  
magferat_1  
./magferat_3/magferat_1:  
21201579_1.txt 21201579_2.txt 21201579_3.txt  
./snap:
```

- cd /home/hp/lab_a1_1579
- ls task_1s
- rm -r task_1s/*
- ls task_1s

```
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/lab_a1_1579  
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579$ pwd  
/home/hp/lab_a1_1579  
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579$ ls  
task_1s  
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579$ ls task_1s  
21201579_4.txt magferat_1 magferat_2  
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579$ rm -r task_1s/*  
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579$ ls task_1s  
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579$
```

Task - 1 (b)

```
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/lab_a1_1579/task_1b
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579$ mkdir task_1b
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579$ cd task_1b
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1b$ touch course.txt
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1b$ gedit course.txt
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1b$ cat course.txt
CSE419
- PROGRAMMING LANGUAGE AND COMPETITIVE PROGRAMMING
- S : 1
- FACULTY : KKP
- CREDIT : 3

CSE425
- NEURAL NETWORKS
- S : 2
- FACULTY : MMM
- CREDIT : 3

CSE321
- OPERATING SYSTEM
- S : 13
- FACULTY : KBS
- CREDIT : 3

ECO102
- INTRODUCTION TO MACROECONOMICS
- S : 4
- FACULTY : RUA
- CREDIT : 3

TOTAL = 4 COURSE
TOTAL - CREDIT : 12

hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1b$ ls CSE*
ls: cannot access 'CSE*': No such file or directory
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1b$ grep -c "CSE" course.txt
3
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1b$
```

Task - 1 (c)

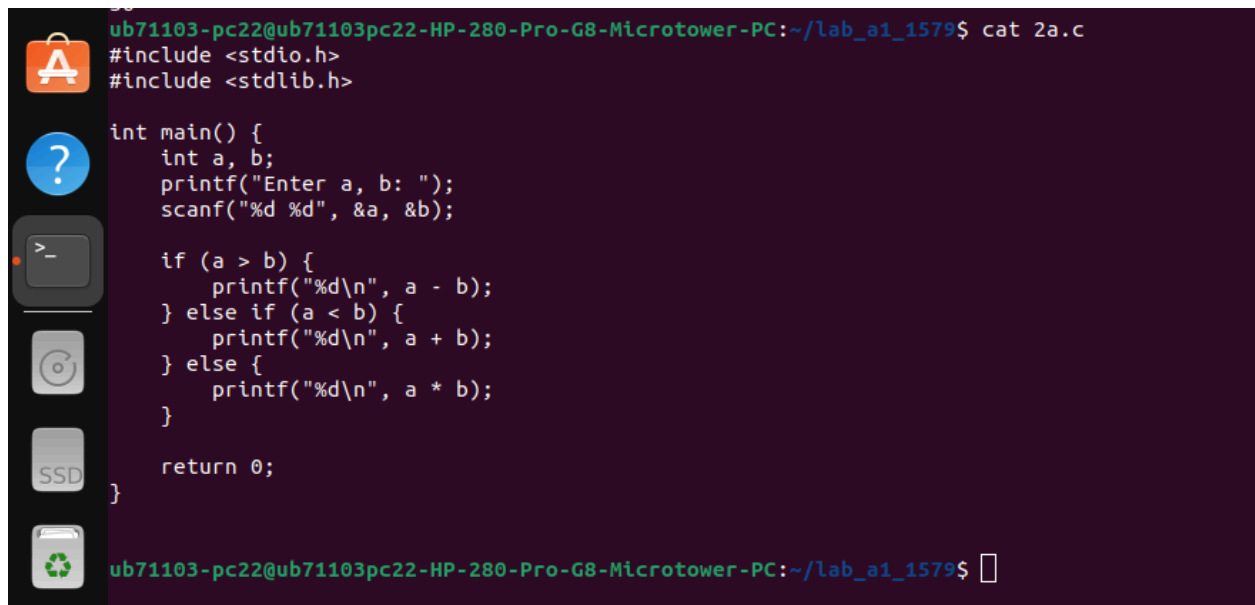
```
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/lab_a1_1579/task_1b
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1b$ ls -a /root
ls: cannot open directory '/root': Permission denied
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1b$ sudo ls -a /root
. . . .bash_history .bashrc .cache .config .lessht .local magferat_3 .profile snap .sudo_as_admin_successful
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1b$ sudo ls -a /root | grep "\."
. . . .bash_history
.bashrc
.cache
.config
.lessht
.local
.profile
.sudo_as_admin_successful
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_1b$
```

Task - 1 (d)

```
hp@hp-HP-280-Pro-G6-Microtower-PC: ~/lab_a1_1579
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579$ touch .txt
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579$ gedit .txt
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579$ cat .txt
1 = Turkey's
2 = economy
3 == grew
4 ==an
5 = annual
6 = 4.5%
7 = in 2023
8 = and
9 == 4%
10 == in
11 = the
12 first
13 quarter
14 of
15 = that
16 year
17 = despite
18 = slowdown
19
20
21
22
23
```

```
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579
hp@hp-HP-280-Pro-G6-Microtower-PC:~$ cd lab_a1_1579
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579$ ls -a
.  ..  task_1b  task_1s  .txt
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579$ head -n 17 .txt | tail -n +5
5 = annual
6 = 4.5%
7 = in 2023
8 = and
9 == 4%
10 == in
11 = the
12 first
13 quarter
14 of
15 = that
16 year
17 = despite
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579$
```

TASK - 2 (a)

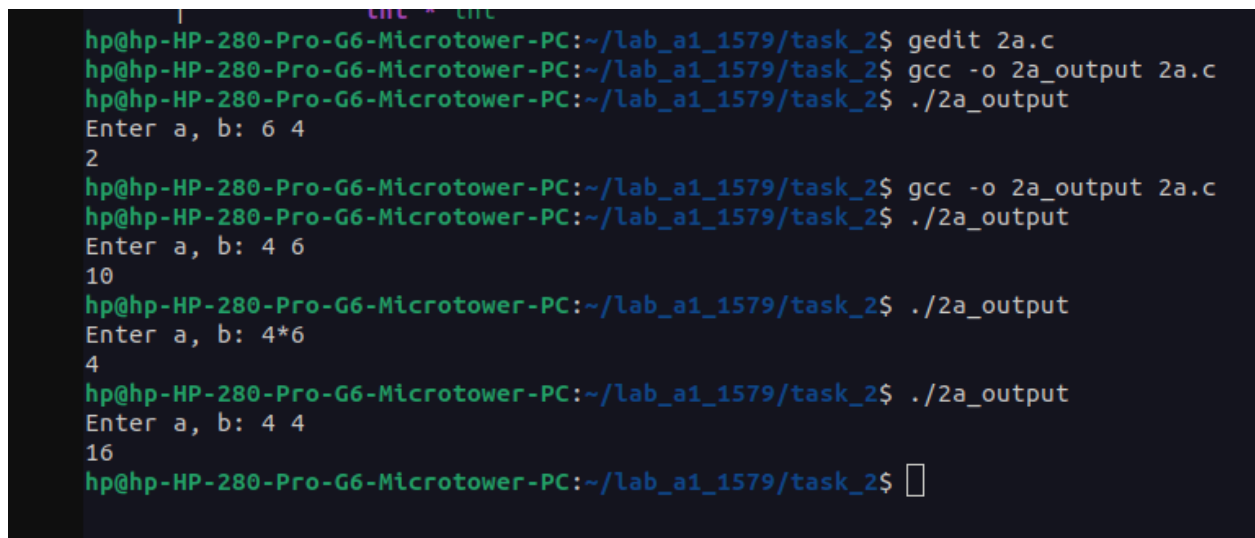


```
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ cat 2a.c
#include <stdio.h>
#include <stdlib.h>

int main() {
    int a, b;
    printf("Enter a, b: ");
    scanf("%d %d", &a, &b);

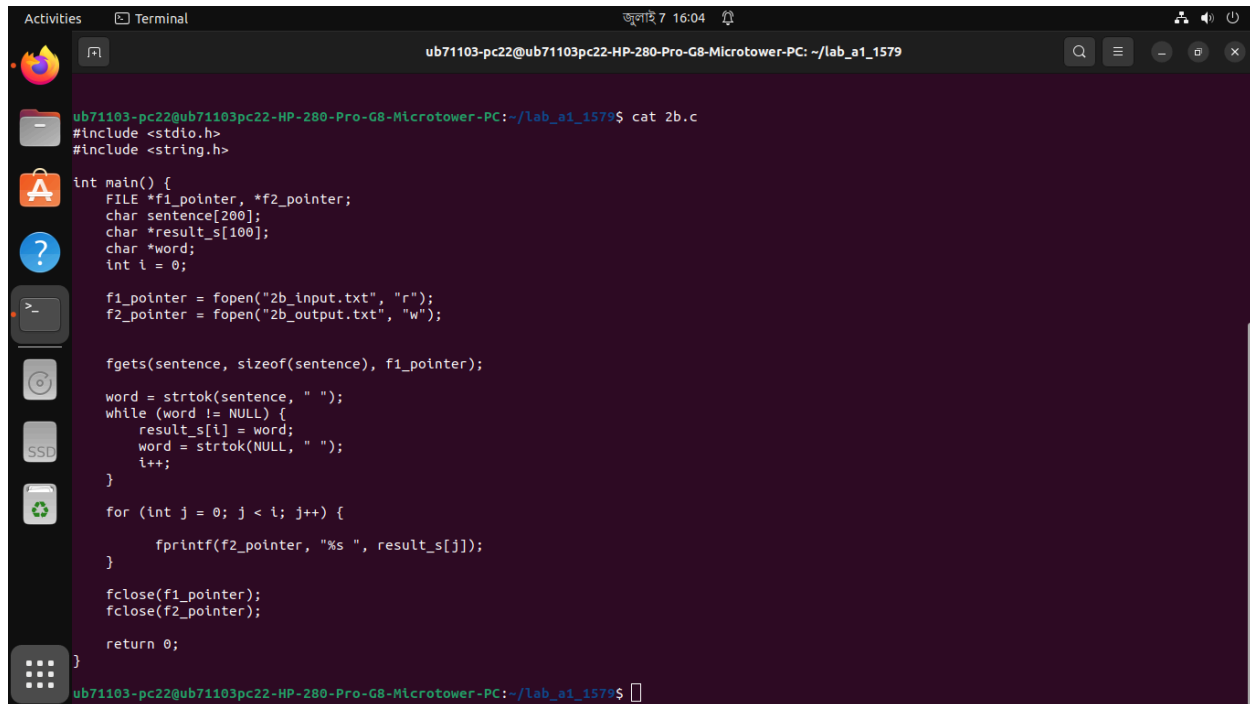
    if (a > b) {
        printf("%d\n", a - b);
    } else if (a < b) {
        printf("%d\n", a + b);
    } else {
        printf("%d\n", a * b);
    }

    return 0;
}
```



```
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_2$ gedit 2a.c
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_2$ gcc -o 2a_output 2a.c
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_2$ ./2a_output
Enter a, b: 6 4
2
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_2$ gcc -o 2a_output 2a.c
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_2$ ./2a_output
Enter a, b: 4 6
10
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_2$ ./2a_output
Enter a, b: 4*6
4
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_2$ ./2a_output
Enter a, b: 4 4
16
hp@hp-HP-280-Pro-G6-Microtower-PC:~/lab_a1_1579/task_2$
```

TASK - 2 (B)



```
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC: ~/lab_a1_1579
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ cat 2b.c
#include <stdio.h>
#include <string.h>

int main() {
    FILE *f1_pointer, *f2_pointer;
    char sentence[200];
    char *result_s[100];
    char *word;
    int i = 0;

    f1_pointer = fopen("2b_input.txt", "r");
    f2_pointer = fopen("2b_output.txt", "w");

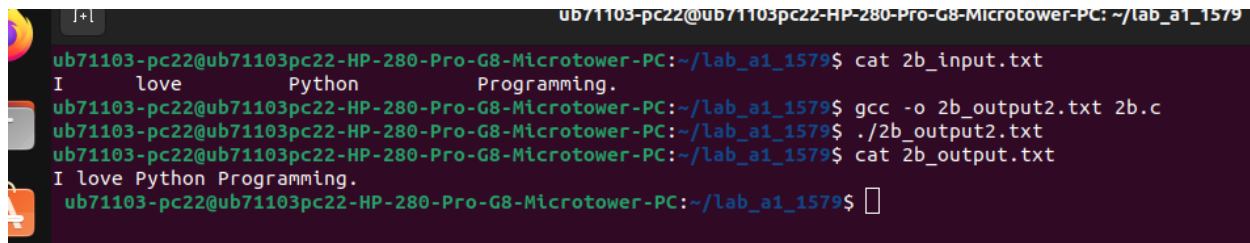
    fgets(sentence, sizeof(sentence), f1_pointer);

    word = strtok(sentence, " ");
    while (word != NULL) {
        result_s[i] = word;
        word = strtok(NULL, " ");
        i++;
    }

    for (int j = 0; j < i; j++) {
        fprintf(f2_pointer, "%s ", result_s[j]);
    }

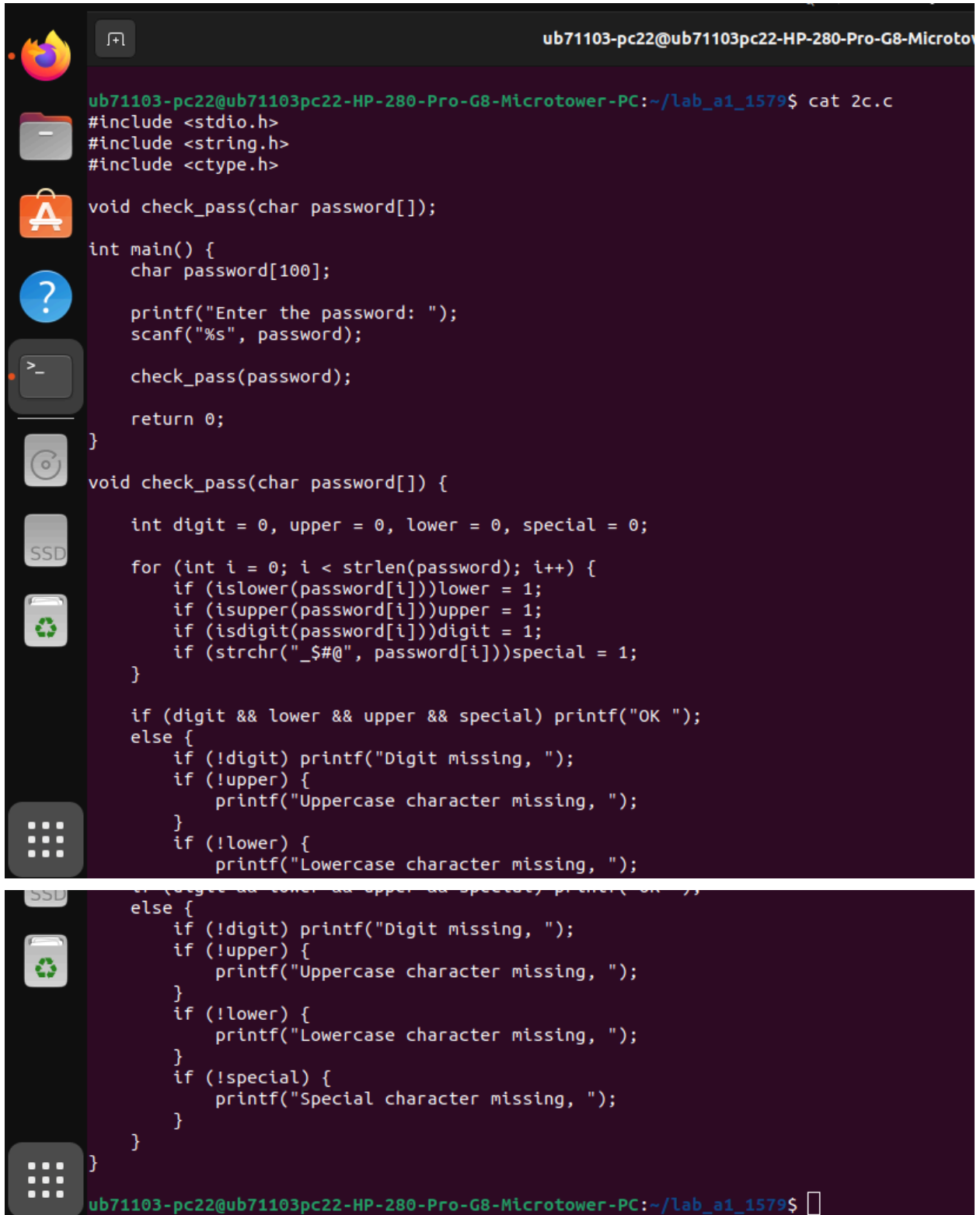
    fclose(f1_pointer);
    fclose(f2_pointer);

    return 0;
}
```



```
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC: ~/lab_a1_1579
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ cat 2b_input.txt
I love Python Programming.
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ gcc -o 2b_output2.txt 2b.c
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ ./2b_output2.txt
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ cat 2b_output.txt
I love Python Programming.
```

TASK - 2 (C)



A terminal window titled "ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC" displays the contents of a file named "2c.c". The code is a C program for password validation. It includes headers for stdio, string, and ctype. The main function prompts the user to enter a password and calls a check_pass function. The check_pass function checks for the presence of digits, uppercase letters, lowercase letters, and special characters. If all are present, it prints "OK "; otherwise, it prints specific messages for missing character types.

```
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ cat 2c.c
#include <stdio.h>
#include <string.h>
#include <ctype.h>

void check_pass(char password[]);

int main() {
    char password[100];

    printf("Enter the password: ");
    scanf("%s", password);

    check_pass(password);

    return 0;
}

void check_pass(char password[]) {
    int digit = 0, upper = 0, lower = 0, special = 0;

    for (int i = 0; i < strlen(password); i++) {
        if (islower(password[i]))lower = 1;
        if (isupper(password[i]))upper = 1;
        if (isdigit(password[i]))digit = 1;
        if (strchr("_$#@", password[i]))special = 1;
    }

    if (digit && lower && upper && special) printf("OK ");
    else {
        if (!digit) printf("Digit missing, ");
        if (!upper) {
            printf("Uppercase character missing, ");
        }
        if (!lower) {
            printf("Lowercase character missing, ");
        }
        if (!special) {
            printf("Special character missing, ");
        }
    }
}
```

ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579\$


```
Terminal
জুলাই 7 14:34
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC: ~/lab_a1_1579

ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ gedit 2c.c
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ gcc -o 2c_output.txt 2c.c
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ ./2c_output.txt
Enter the password: adafsf
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ ./2c_output.txt
Enter the password: qwrldg
Digit missing, Uppercase character missing, Special character missing, ub71103-pc22@ub71103pc22-HP-280-P
```

```
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~$ cd lab_a1_1579
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ ./2c_output.txt
Enter the password: BR@CUspring
Enter the password: bracuspring
Digit missing, Uppercase character missing, Special character missing, ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ ./2
c_output.txt
Enter the password: BR@CU20spring22
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$
```

TASK - 2 (D)

```
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~$ cat 2d.c
#include <stdio.h>
#include <string.h>

int main() {
    char email[100], domain[100];
    char *pointer;
    char old_d[] = "@kaaj.com";
    char new_d[] = "@sheba.xyz";

    printf("Email: ");
    scanf("%s", email);

    pointer = strchr(email, '@');
    strcpy(domain, pointer);

    if (strcmp(domain, old_d) == 0) {
        printf("Email address is outdated \n");
    }
    else if (strcmp(domain, new_d) == 0) {
        printf("Email address is okay \n");
    }

    return 0;
}
```

```
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ cd ..
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~$ ./2d_output.txt
Email: fahmid@kaaj.com
Email address is outdated
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~$ ./2d_output.txt
Email: zaki@sheba.xyz
Email address is okay
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~$
```

Task - 2 (E)

```
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ cat 2e.c
#include <stdio.h>
#include <string.h>
#include <ctype.h>
int main() {
    char given[100];

    printf("Enter a string: ");
    scanf("%s", given);

    int len = strlen(given);
    char right_s[len];
    int k = 0;

    for (int j = len - 1; j >= 0; j--) {
        right_s[k] = given[j];
        k++;
    }

    if (strcmp(given, right_s) == 0) {
        printf("palindrome\n");
    }
    else {
        printf("not a palindrome.\n");
    }

    return 0;
}
```

Activities Terminal জুলাই 7 15:57

```
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC: ~/lab_a1_1579
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ gcc -o 2e_output.txt 2e.c
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$ ./2e_output.txt
Enter a string: AABBABA
not a palindrome.
ub71103-pc22@ub71103pc22-HP-280-Pro-G8-Microtower-PC:~/lab_a1_1579$
```