

C / C++ Programming

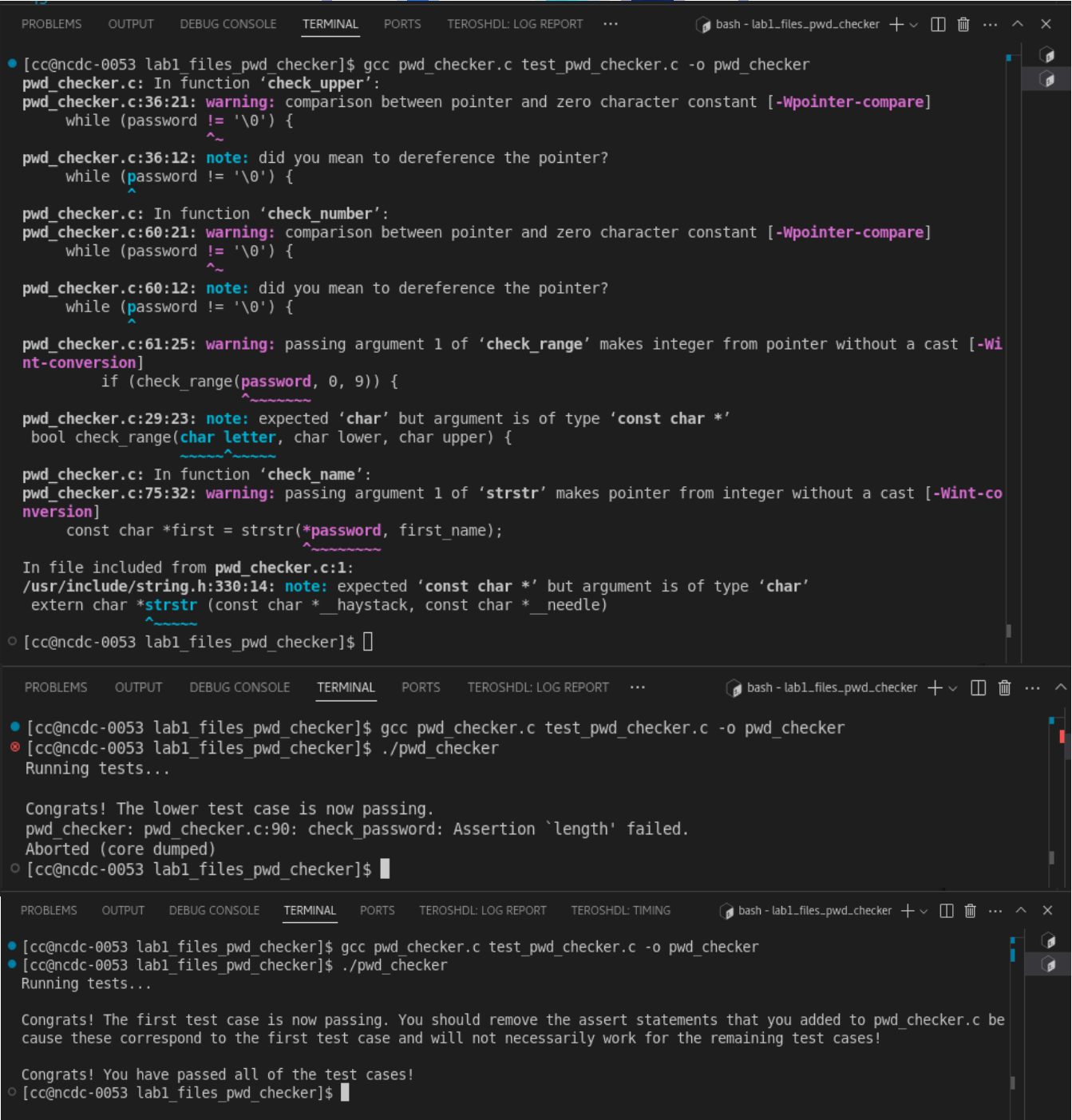
Lab # 01

Introduction to C & Debugger tools

<u>Name</u>	<i><u>Muddassir Ali Siddiqui</u></i>
<u>Instructor</u>	<i><u>Miss Hira Sohail</u></i>
<u>Date</u>	<i><u>9th July 2025</u></i>

1. In-Lab Tasks: (Write your lab task & screenshots here)

i. Task 1:



```
[cc@ncdc-0053 lab1_files_pwd_checker]$ gcc pwd_checker.c test_pwd_checker.c -o pwd_checker
pwd_checker.c: In function 'check_upper':
pwd_checker.c:36:21: warning: comparison between pointer and zero character constant [-Wpointer-compare]
    while (password != '\0') {
                    ^~
pwd_checker.c:36:12: note: did you mean to dereference the pointer?
    while (password != '\0') {
            ^
pwd_checker.c: In function 'check_number':
pwd_checker.c:60:21: warning: comparison between pointer and zero character constant [-Wpointer-compare]
    while (password != '\0') {
                    ^~
pwd_checker.c:60:12: note: did you mean to dereference the pointer?
    while (password != '\0') {
            ^
pwd_checker.c:61:25: warning: passing argument 1 of 'check_range' makes integer from pointer without a cast [-Wint-conversion]
    if (check_range(password, 0, 9)) {
                    ^~~~~~
pwd_checker.c:29:23: note: expected 'char' but argument is of type 'const char *'
    bool check_range(char letter, char lower, char upper) {
                    ^~~~~~
pwd_checker.c: In function 'check_name':
pwd_checker.c:75:32: warning: passing argument 1 of 'strstr' makes pointer from integer without a cast [-Wint-conversion]
    const char *first = strstr(*password, first_name);
                               ^~~~~~
In file included from pwd_checker.c:1:
/usr/include/string.h:330:14: note: expected 'const char *' but argument is of type 'char'
    extern char *strstr(const char *__haystack, const char *__needle)
                   ^~~~~~
[cc@ncdc-0053 lab1_files_pwd_checker]$
```

```
[cc@ncdc-0053 lab1_files_pwd_checker]$ gcc pwd_checker.c test_pwd_checker.c -o pwd_checker
[cc@ncdc-0053 lab1_files_pwd_checker]$ ./pwd_checker
Running tests...

Congrats! The lower test case is now passing.
pwd_checker: pwd_checker.c:90: check_password: Assertion 'length' failed.
Aborted (core dumped)
[cc@ncdc-0053 lab1_files_pwd_checker]$
```

```
[cc@ncdc-0053 lab1_files_pwd_checker]$ gcc pwd_checker.c test_pwd_checker.c -o pwd_checker
[cc@ncdc-0053 lab1_files_pwd_checker]$ ./pwd_checker
Running tests...

Congrats! The first test case is now passing. You should remove the assert statements that you added to pwd_checker.c because these correspond to the first test case and will not necessarily work for the remaining test cases!

Congrats! You have passed all of the test cases!
[cc@ncdc-0053 lab1_files_pwd_checker]$
```

ii. Task 2:

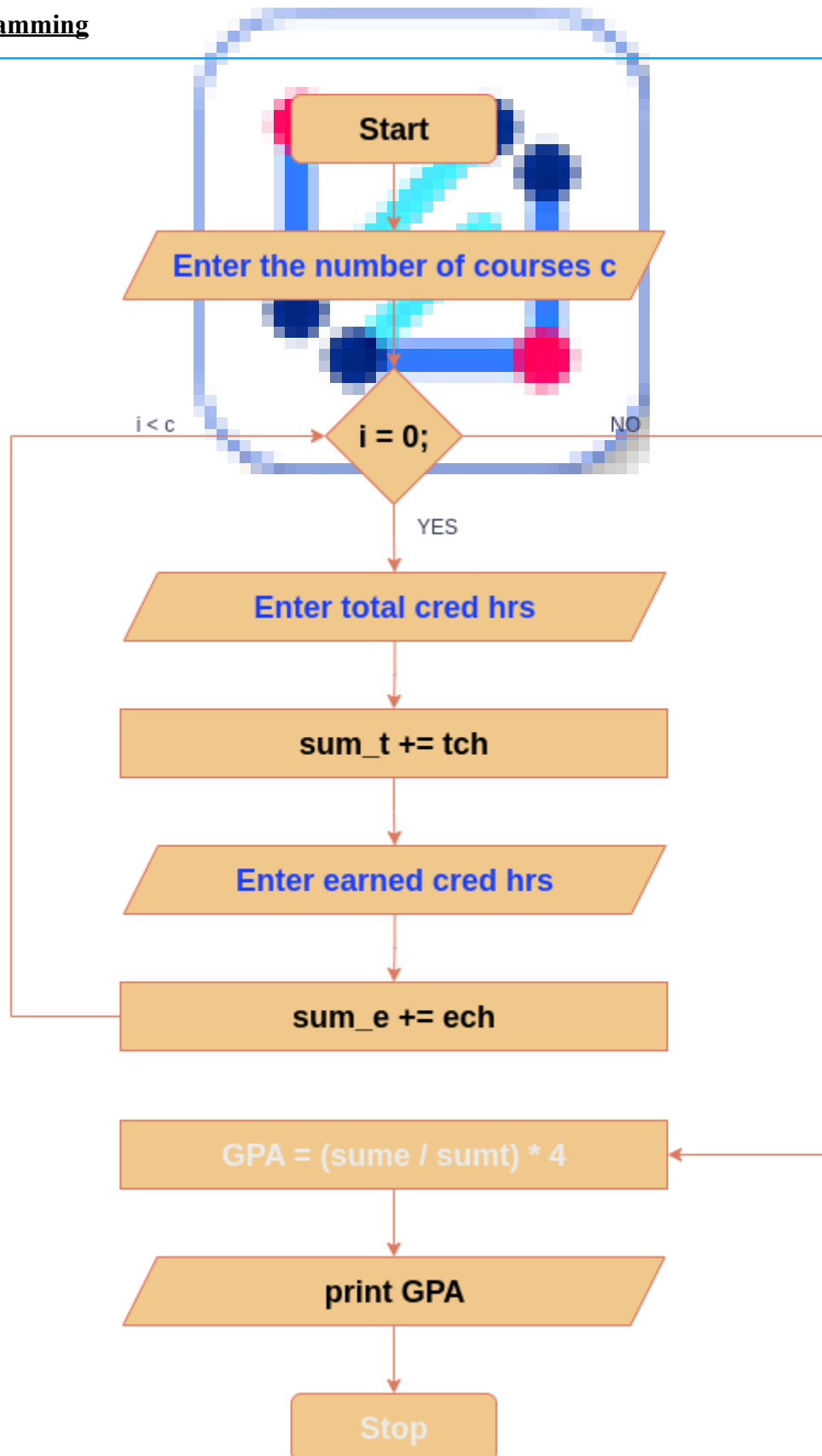
S.No	Data Type
1	float
2	float

iii. Task 3:

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS
```

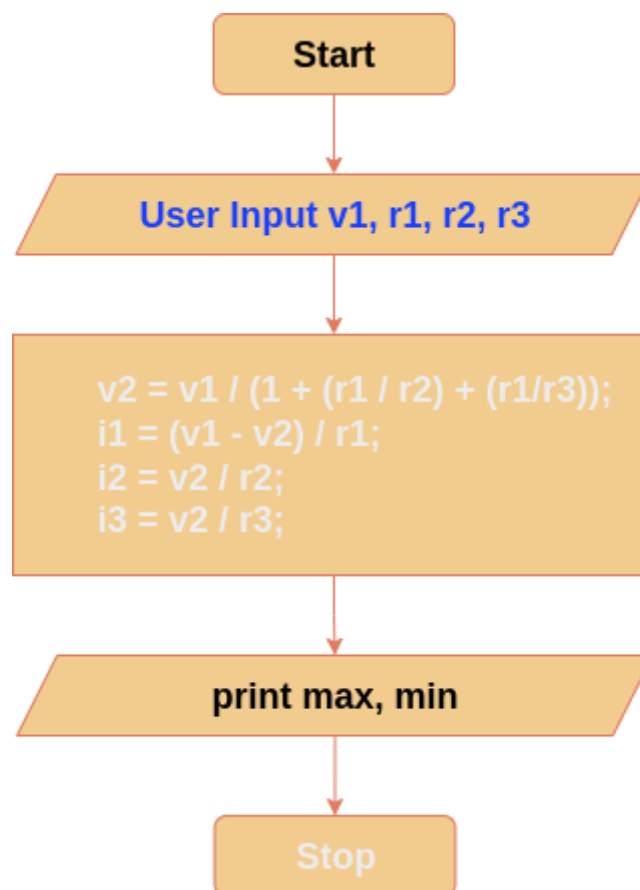
```
● [cc@ncdc-0053 code]$ gcc lab1_task3.c -o task3
● [cc@ncdc-0053 code]$ ./task3
My name is: Muddassir Ali
My CNIC Number is: 42401-3768894-9
○ [cc@ncdc-0053 code]$
```

iv. Task 4:



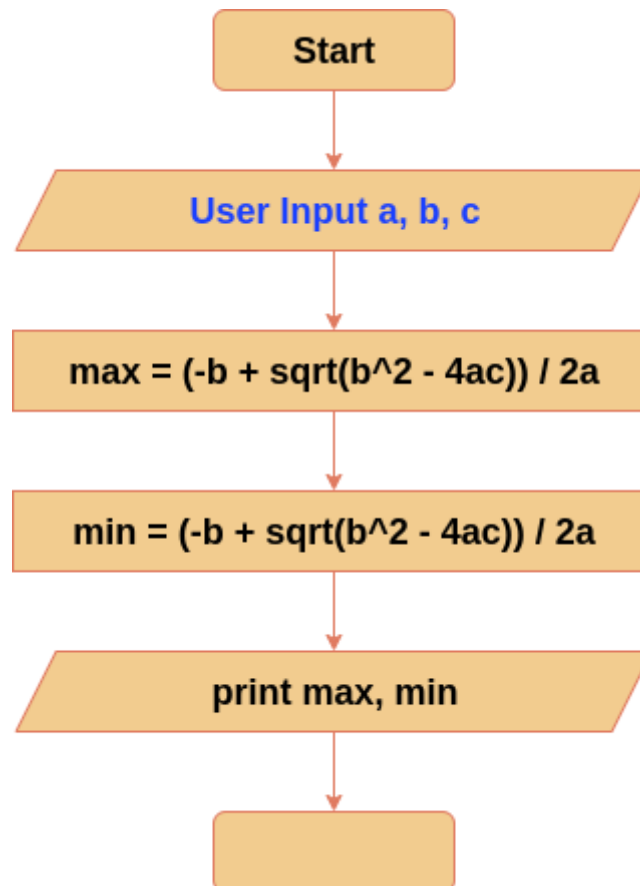
```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS TEROSHDL
• [cc@ncdc-0053 code]$ gcc lab1_task4.c -o task4
• [cc@ncdc-0053 code]$ ./task4
Enter the number of Courses:
2
Enter the credit hours of Course # 1
4
How much credit hours you earned in the Course # 1
3.7
Enter the credit hours of Course # 2
4
How much credit hours you earned in the Course # 2
3.5
Your GPA is 3.600000
○ [cc@ncdc-0053 code]$
```

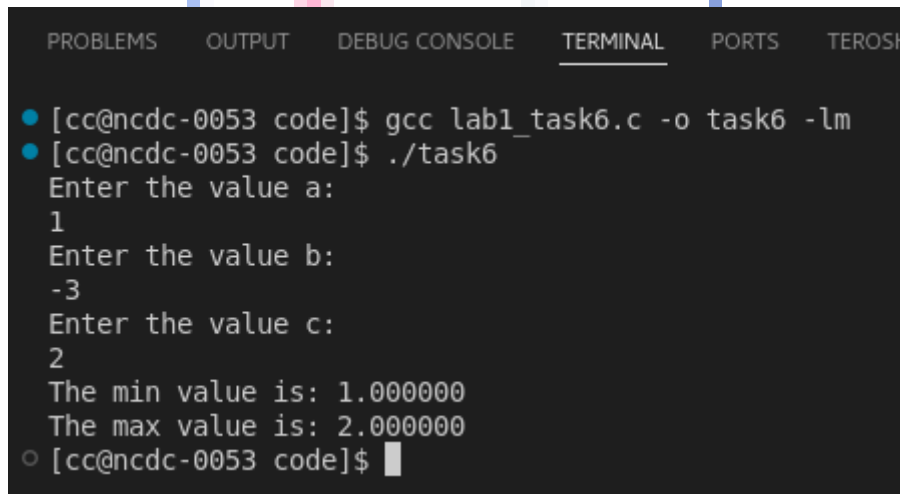
v. Task 5:



```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS T
• [cc@ncdc-0053 code]$ gcc lab1_task5.c -o task5
• [cc@ncdc-0053 code]$ ./task5
Enter the Voltage V1:
12
Enter the current i1:
4
Enter the current i2:
6
Enter the current i3:
3
The Nodal Voltage are: 4.000000
The current i1 is: 2.000000
The current i1 is: 0.666667
The current i1 is: 1.333333
○ [cc@ncdc-0053 code]$
```

vi. Task 6:





```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS TEROSH  
● [cc@ncdc-0053 code]$ gcc lab1_task6.c -o task6 -lm  
● [cc@ncdc-0053 code]$ ./task6  
Enter the value a:  
1  
Enter the value b:  
-3  
Enter the value c:  
2  
The min value is: 1.000000  
The max value is: 2.000000  
○ [cc@ncdc-0053 code]$
```

2. Critical Analysis: (*Write you critical analysis / conclusion here*)

In the first task we learned how to debug the code and also learned the command to compile and run the code from the terminal. We also get knowledge of data types, user-defined input. We also make flowcharts so that before code we have a skeleton or plan to execute.