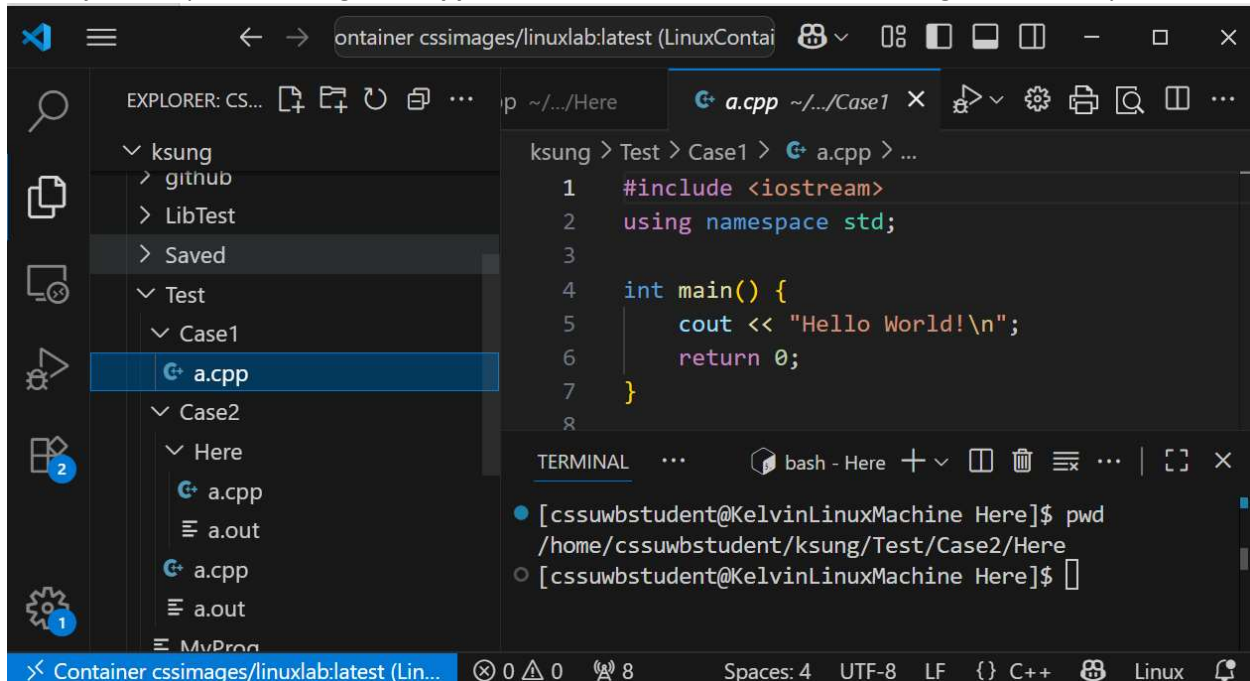


Question 1. (7pt)

I have just completed editing the **a.cpp** source code file and here is the working session of my VSC:



The screenshot shows the Visual Studio Code editor with a file explorer on the left. The file explorer shows a project structure with folders 'ksung', 'github', 'LibTest', 'Saved', 'Test', 'Case1', 'Case2', and 'Here'. The file 'a.cpp' is selected in the 'Case1' folder. The editor window shows the code for 'a.cpp' with the following content:

```
1 #include <iostream>
2 using namespace std;
3
4 int main() {
5     cout << "Hello World!\n";
6     return 0;
7 }
8
```

The terminal window at the bottom shows the following commands and output:

```
bash - Here
[cssuwbstudent@KelvinLinuxMachine Here]$ pwd
/home/cssuwbstudent/ksung/Test/Case2/Here
[cssuwbstudent@KelvinLinuxMachine Here]$
```

Now, I would like to compile the source code file into a program named **MyProg** and run the program. Please show the commands you will issue for each of the following cases. Please list the commands in separate lines, one command per line.

- a. (4pts) In the above CLI, what are the commands I have to issue if I want to remain in the same directory, compile the source code file, and run the resulting **MyProg** from the current working directory of the CLI?

```
g++ ../../Case1/a.cpp -o ../../Case1/MyProg (+2)
../../Case1/MyProg (+2)
```

- b. (3pts) What are the commands I have to issue if I want to go to the folder that contains the source code file and then compile and run the resulting program?

```
cd ../../Case1/MyProg (+1)
g++ a.cpp -o ./MyProg (+1)
./MyProg (+1)
```

Question 2. (13pt)

- a. (1pt) What is the output of the following statements:

```
int a = 1234;
cout << a/10 << "    " << a%10 << endl;
```

- b. (5pt) Please show how to implement the following function:

```
// This function removes the rightmost digit from n.
// The function returns the removed digit and
//          modifies n by removing the left most digit
// For example:
//      n = 567
//      d = RemoveAndGetRightDigit(n)
//      cout << n << "    " << d << endl;
// will print out:
//      56  7
int RemoveAndGetRightDigit(int &n)
```

```
int right_digit = n % 10;
n = n / 10;
return right_digit;
```

- c. (7pt) Given an integer **anInt**, write a loop to print its individual digits by calling your **RemoveAndGetRightDigit(int&)** function. For example:

```
int anInt = 7531;
... your loop comes here
```

And, the output would be: 1 3 5 7.

```
while (anInt > 10) {
    int removed_digit = RemoveAndGetRightDigit(anInt);
    cout << removed_digit << " ";
}
```