Activity No. 2.1	
Hands-on Activity 2.1: Data Types and Arithmetic Operations	
Course Code: CPE007	**Program:** Computer Engineering
Course Title: Programming Design and Logic	**Date Performed:**8/6/25
Section: CPE11S1	**Date Submitted:**8/7/25
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6. Output

Example 1: The following program has an output of:

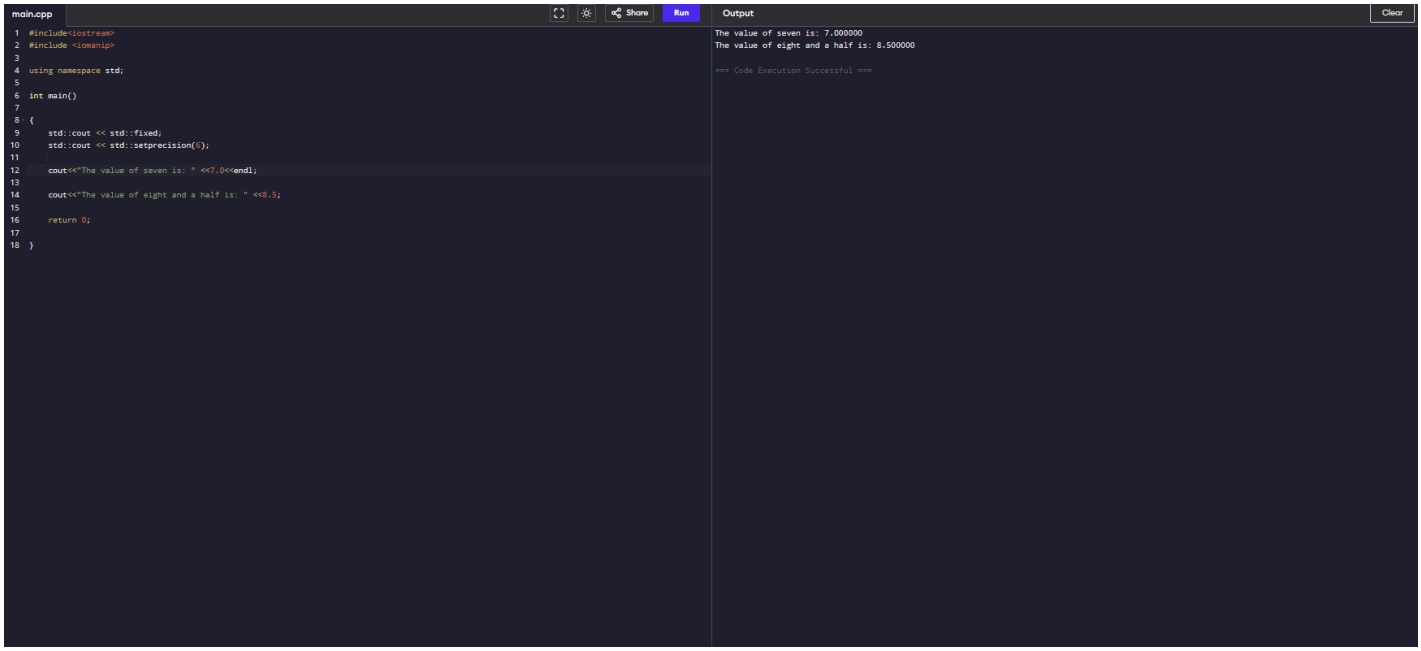
The value of seven is: 7.000000

The value of eight and a half is: 8.500000

Can you find all possible compilation errors and logic errors? Can you fix them to print the same result as the expected output? Before you use your compiler, try to find the errors only by manual code analysis.

```
#include<iostream>

using namespace std;

int main()

{

cout<<"The value of seven is: ";

cout<<"The value of eight and a half is: ", <<8.5;

return 0;

}
```

The error lies on the line *cout<<"The value of seven is: ";* **not having the 7.0 value**. **This can be fixed by adding** *<<7.0;* **and** *endl* **at the end. There is also the error on the line** *cout<<"The value of eight and a half is: ", <<8.5;* **due to having "," before** *<<8.5***. This can be fixed by removing that ",". The problem with the output not displaying other decimal values is because of it lacking the lines** *#include <iomanip>* **and adding the lines** *std::cout << std::fixed;* **and** *std::cout << std::setprecision(6);* **inside the function.**



***Example 2**: The following program has an output of:*

The value of seven is: 7.000000

The value of eight and a half is: 8.500000

Can you find all possible compilation errors and logic errors? Can you fix them to print the same result as the expected output? Before you use your compiler, try to find the errors only by manual code analysis.

#include <iostream>

using namespace std;

int main()

{

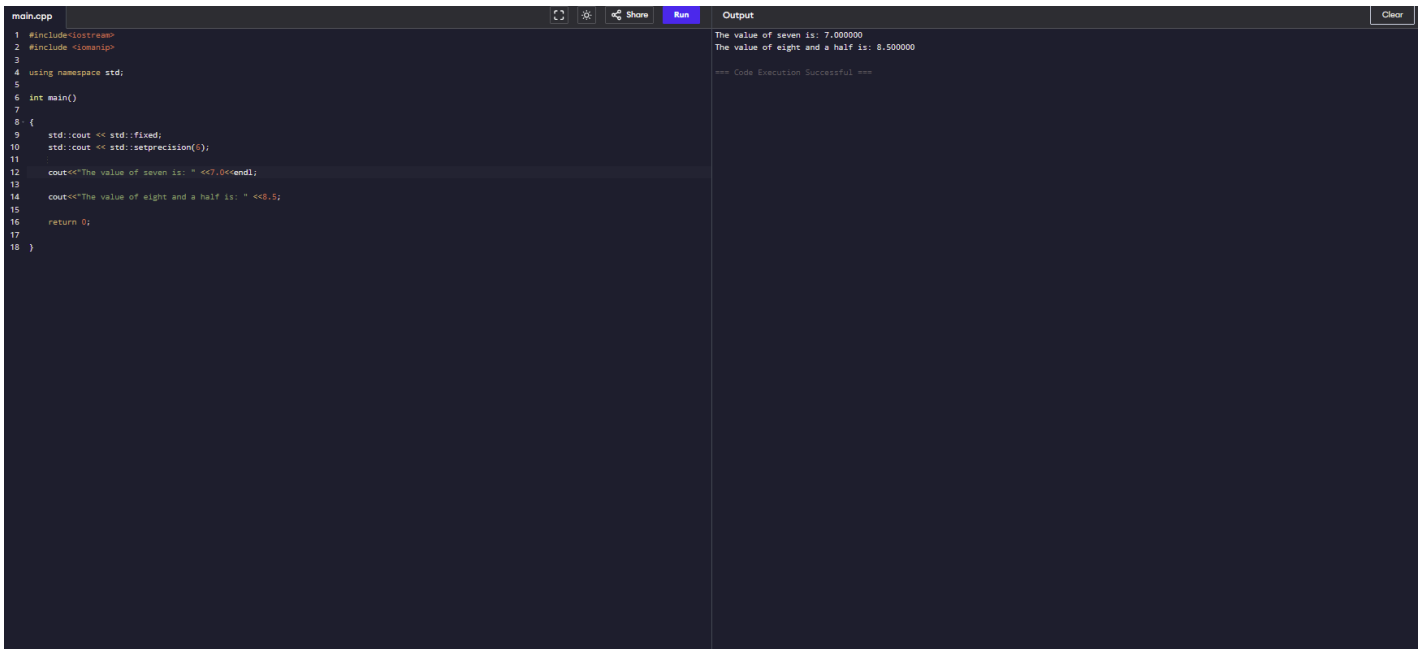
cout<<"The value of seven is: "<< 7 0;

cout<<"The value of eight and a half is: "<<8.5;

return 0;

}

The error lies on the line *cout<<"The value of seven is: "<< 7 0;* **not having a "." between 7 and 0. This can be fixed by replacing** *7 0* **with** *7.0*.**The problem with the output not displaying other decimal values is because of it lacking the lines** *#include <iomanip>* **and adding the lines** *std::cout << std::fixed;* **and** *std::cout << std::setprecision(6);* **inside the function.**



***Example 3**: The following program has an output of:*

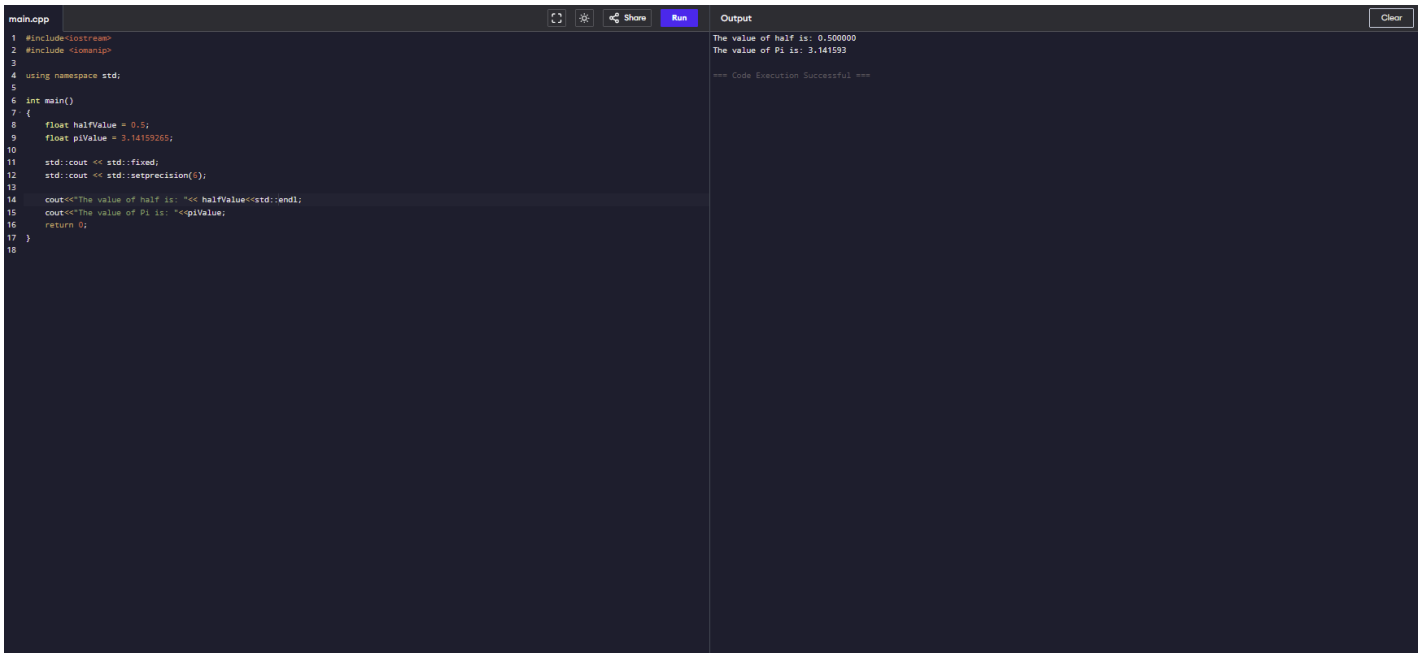
The value of half is: 0.500000

The value of Pi is: 3.141593

Can you find all possible compilation errors and logic errors? Can you fix them to print the same result as the expected output? Before you use your compiler, try to find the errors only by manual code analysis.

```
int main()

{

float halfValue = 0.6;

float piValue = 3.141 592 65;

cout<<"The value of half is: "<< half Value;

cout<<"The value of Pi is: "<<pi_Value;

return 0;

}
```

The error lies on different lines, first *3.141 592 65* **must have no spaces. It can be fixed by replacing it with** *3.14159265*. **The value of** *halfValue* **is also wrong. This can be fixed by replacing its value with** *0.5.* **Next errors are on the misnamed** *half Value* **and** *pi_Value*. **These errors can be fixed by renaming them the same as the original variable** *halfValue* **and** *piValue.* **You also need to add the lines** *#include <iostream>* **and** *using namespace std;* **at the top.The problem with the output not displaying other decimal values is because of it lacking the lines** *#include <iomanip>* **and adding the lines** *std::cout << std::fixed;* **and** *std::cout << std::setprecision(6);* **inside the function.**



Example 4: Sample program for Adding Two Integers

```
#include <iostream>

int main()

{

int integer1, integer2, sum; /*declaration */

cout<<“Enter first integer: \n” ;  /* prompt */

cin>>integer1 ;              /* read an integer */

cout<<“Enter second integer: \n” ; /* prompt */

cin<<integer2;               /* read an integer */

sum = integer1 + integer2;          /* assignment of sum */

cout<<“Sum is : "<<sum;       /* print sum */


return 0;   /* indicate that program ended successfully */

}
```

Sample Output:

Enter first integer

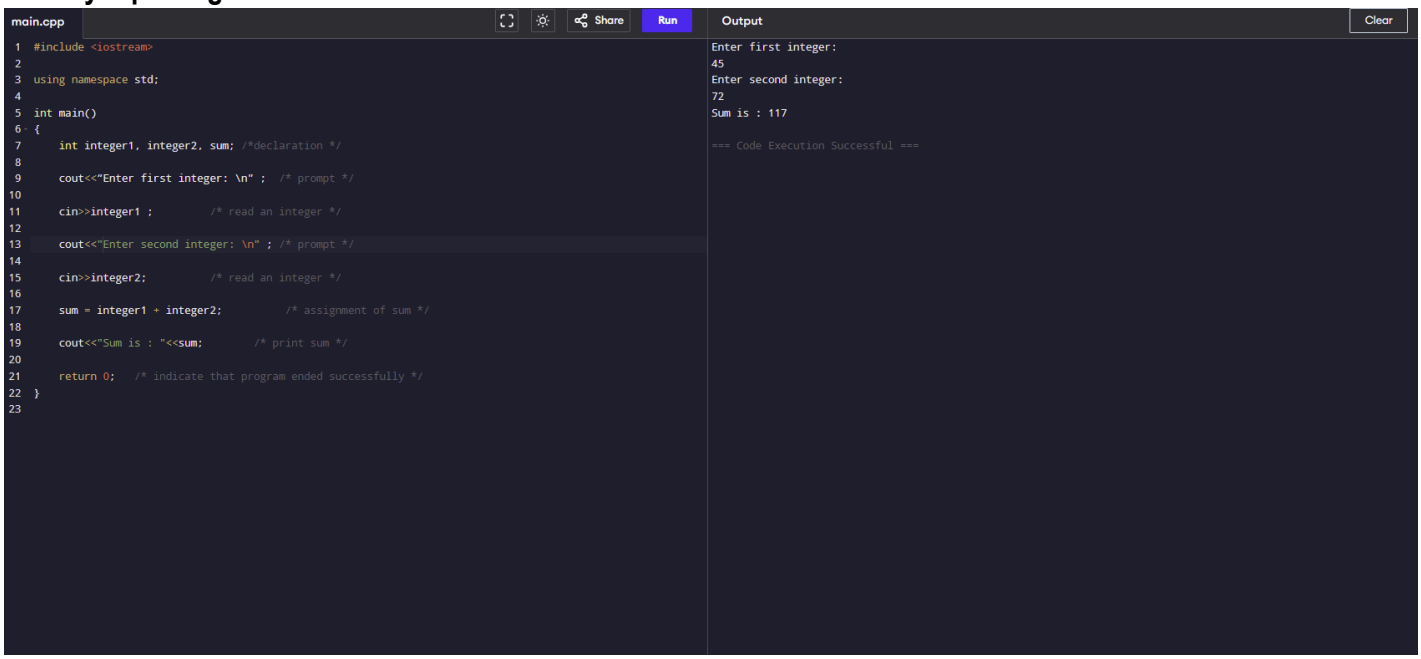
45

Enter second integer

72

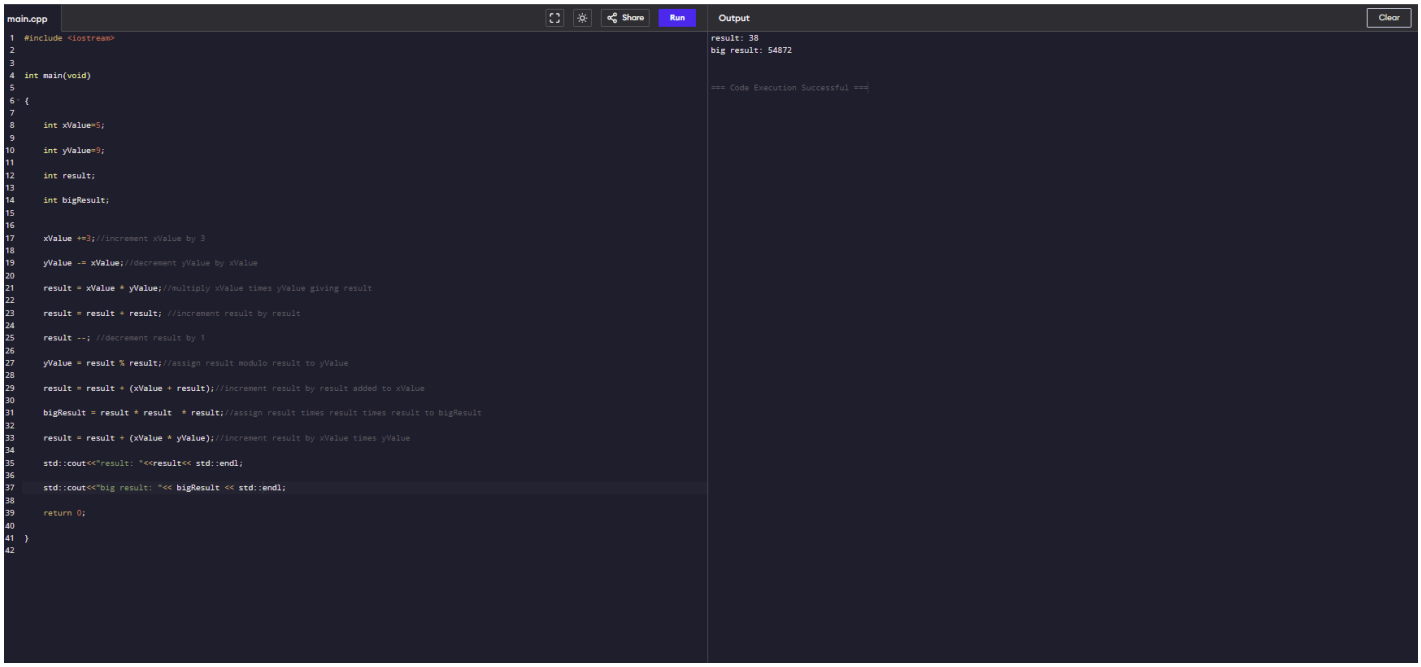
Sum is 117

The first problem is that it does not include using namespace std; **. This can be fixed by adding that line or by adding** *std::* **to every function that needs it. The next error is on the line** *cin*<< **using << instead of >> . This can be fixed by replacing** *cin*<< **with** *cin*>> **.**



7. Supplementary Activity

Activity 1:



Activity 2:

main.cpp

```cpp
#include <iostream>
#include <iomanip>

int main()

{

    float startValue = 100;

    float interestRate = 0.015;

    float firstYearValue;

    float secondYearValue;

    float thirdYearValue;

    std::cout << std::fixed;
    std::cout << std::setprecision(6);

    firstYearValue = startValue +(1 + interestRate);

    secondYearValue = firstYearValue * (1 + interestRate);

    thirdYearValue = secondYearValue * (1 + interestRate);



    std::cout<<"After first year: "<<firstYearValue<<std::endl;

    std::cout<<"After second year: "<<secondYearValue<<std::endl;

    std::cout<<"After third year: "<<thirdYearValue<<std::endl;

    return 0;

}
```

Output

```
After first year: 101.500000
After second year: 103.022499
After third year: 104.567833


=== Code Execution Successful ===
```

8. Conclusion

This activity gave me more insight on how to spot and fix errors on code in the C++ language. I learned about how the arithmetic operations work in this language and how to get the remainder using modulo which is very interesting to find out. This activity also lets me apply what I have learned on the different data types and arithmetic operations in the same language.

9. Assessment Rubric