

DAY 5 C++ PROGRAMS

1) Swapping of Two Numbers using Friend Function

The screenshot shows the Programiz C++ Online Compiler interface. On the left, there's a file navigation sidebar with icons for main.cpp, JS, TS, and GO. The main area has tabs for main.cpp, Run, and Output. The Run button is highlighted in blue. The code editor contains the following C++ code:

```
1 #include<iostream>
2 using namespace std;
3
4 class XYZ;
5 class ABC
6 {
7     int a;
8     public:
9         void setval(int x)
10    {
11        a=x;
12    }
13    void display()
14    {
15        cout << "a = " << a << endl;
16    }
17    friend void swap(ABC &,XYZ &);
18 };
19 class XYZ
20 {
21     int b;
22     public:
23         void setval(int y)
24    {
25        b=y;
```

The output window shows the results of running the program:

```
a = 20
b = 10
==== Code Execution Successful ===
```

2) Greatest Of Two Numbers Using Friend Function

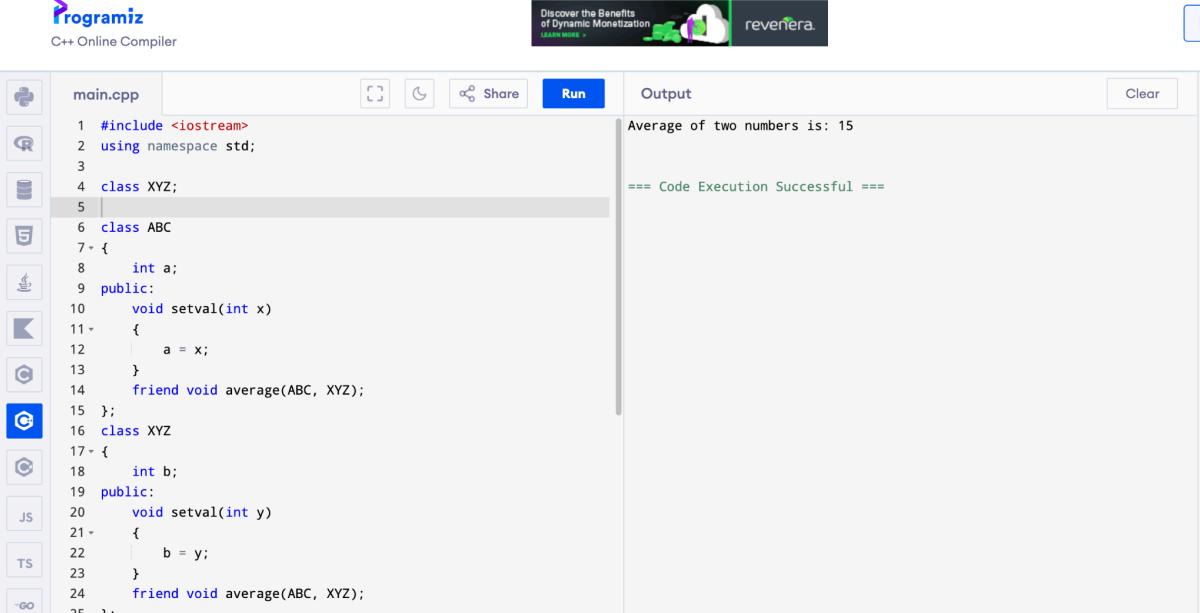
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2 using namespace std;
3
4 class XYZ;
5 class ABC
6 {
7     int a;
8     public:
9         void setval(int x)
10    {
11        a=x;
12    }
13    void display()
14    {
15        cout << "a = " << a << endl;
16    }
17    friend void max(ABC,XYZ);
18 };
19 class XYZ
20 {
21     int b;
22     public:
23         void setval(int y)
24    {
25        b=y;
```

The output window shows the results of running the program:

```
The Greater is b:20
==== Code Execution Successful ===
```

3) Average of two numbers using Friend Function



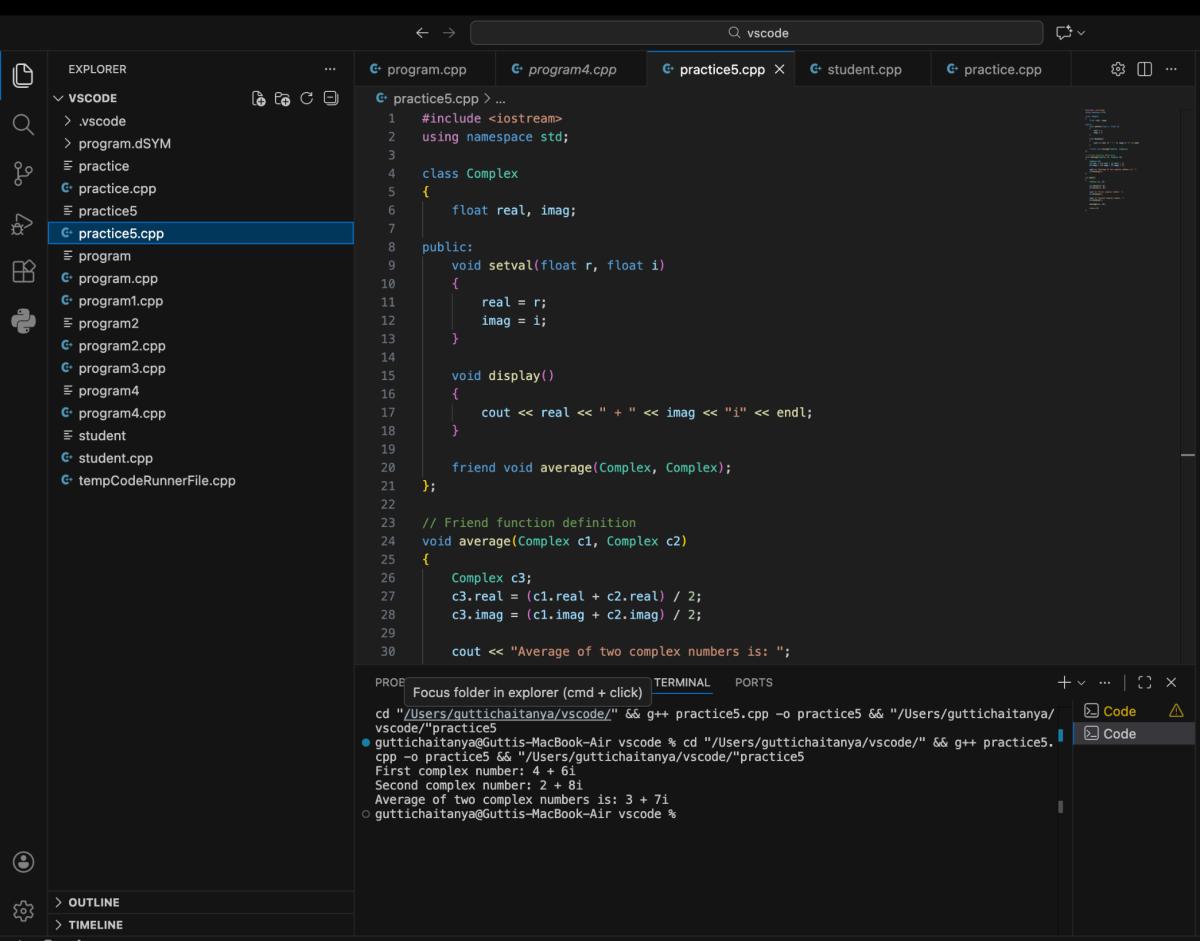
The screenshot shows the Programiz C++ Online Compiler interface. On the left, there's a file selector with 'main.cpp' selected. The code editor contains the following C++ code:

```
1 #include <iostream>
2 using namespace std;
3
4 class XYZ;
5
6 class ABC
7 {
8     int a;
9 public:
10    void setval(int x)
11    {
12        a = x;
13    }
14    friend void average(ABC, XYZ);
15 };
16 class XYZ
17 {
18     int b;
19 public:
20    void setval(int y)
21    {
22        b = y;
23    }
24    friend void average(ABC, XYZ);
25 };
```

The output window on the right shows the results of the execution:

```
Average of two numbers is: 15
== Code Execution Successful ==
```

4) Complex Number using Friend Function



The screenshot shows the Visual Studio Code (VS Code) interface. The Explorer sidebar on the left lists several projects and files, with 'vscode' expanded and 'practice5.cpp' selected. The main code editor area displays the following C++ code for working with complex numbers:

```
1 #include <iostream>
2 using namespace std;
3
4 class Complex
5 {
6     float real, imag;
7
8 public:
9     void setval(float r, float i)
10    {
11        real = r;
12        imag = i;
13    }
14
15    void display()
16    {
17        cout << real << " + " << imag << "i" << endl;
18    }
19
20    friend void average(Complex, Complex);
21 };
22
23 // Friend function definition
24 void average(Complex c1, Complex c2)
25 {
26     Complex c3;
27     c3.real = (c1.real + c2.real) / 2;
28     c3.imag = (c1.imag + c2.imag) / 2;
29
30     cout << "Average of two complex numbers is: ";
```

The terminal at the bottom shows the command-line output of the execution:

```
Focus folder in explorer (cmd + click) TERMINAL PORTS
cd "/Users/guttichaitanya/vscode/" && g++ practice5.cpp -o practice5 && "/Users/guttichaitanya/vscode/practice5"
guttichaitanya@Guttis-MacBook-Air vscode % cd "/Users/guttichaitanya/vscode/" && g++ practice5.cpp -o practice5 && "/Users/guttichaitanya/vscode/practice5"
First complex number: 4 + 6i
Second complex number: 2 + 8i
Average of two complex numbers is: 3 + 7i
guttichaitanya@Guttis-MacBook-Air vscode %
```