

01

The screenshot shows a C++ IDE with a file named `main.cpp`. The code is as follows:

```
1 #include<iostream>
2 using namespace std;
3 int main() {
4     cout<<"printing the address of x"<<endl;
5     int x = 5;
6     int *ptr;
7     ptr=&x;
8     cout<<ptr;
9     return 0;
10 }
```

The output window on the right shows the following text:

```
/tmp/pj4kpjTPC.o
printing the address of x
0x7fff5ada88f4
```

At the bottom of the IDE, there is a taskbar with various application icons and a system tray showing the temperature (34°C) and weather (Smoke). A promotional banner for a C++ course is also visible at the bottom right.

02

The screenshot shows the same C++ IDE with a modified `main.cpp` file. The code is as follows:

```
1 #include<iostream>
2 using namespace std;
3 int main() {
4     cout<<"printing the value of x"<<endl;
5     int x = 5;
6     int *ptr;
7     ptr=&x;
8     cout<<*ptr;
9     return 0;
10 }
```

The output window on the right shows the following text:

```
/tmp/pj4kpjTPC.o
printing the value of x
5
```

The taskbar and promotional banner at the bottom are identical to the first screenshot.

03

main.cpp

Run

```
1 #include<iostream>
2 using namespace std;
3 int main() {
4     int arr[] = {1, 2, 3, 4, 5};
5     int *ptr = arr;
6     cout<<"Value at ptr:"<<*ptr<<endl;
7     ptr++;
8     cout << "Value at ptr after increment: "<<*ptr<<endl;
9     return 0;
10 }
11
```

Output

Clear

```
/tmp/pj4kpijTPC.o
Value at ptr:1
Value at ptr after increment: 2
```

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04

main.cpp

Run

```
1 #include<iostream>
2 using namespace std;
3 int main() {
4     int a,b,c;
5     cout<<"Enter the 1st num: ";
6     cin>>a;
7     cout<<"Enter the 2nd num: ";
8     cin>>b;
9     c=a+b;
10    int *ptr1=&a;
11    int *ptr2=&b;
12    int *ptr3=&c;
13    cout<<"Addition of a and b is = "<<*ptr3;
14    return 0;
15 }
16
```

Output

Clear

```
/tmp/pj4kpijTPC.o
Enter the 1st num: 30
Enter the 2nd num: 20
Addition of a and b is = 50
```

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05

main.cpp

Run

```
1 #include<iostream>
2 using namespace std;
3 int main() {
4     int a,b,c;
5     cout<<"Enter the 1st num: ";
6     cin>>a;
7     cout<<"Enter the 2nd num: ";
8     cin>>b;
9     c=a-b;
10    int *ptr1=&a;
11    int *ptr2=&b;
12    int *ptr3=&c;
13    cout<<"Subtraction of a from b is = "<<*ptr3;
14    return 0;
15 }
```

Output

Clear

```
/tmp/pj4kp1jTPC.o
Enter the 1st num: 30
Enter the 2nd num: 20
Subtraction of a from b is = 10
```

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Smoke

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06

main.cpp

Run

```
1 #include<iostream>
2 using namespace std;
3 int main() {
4     int a,b,c;
5     cout<<"Enter the 1st num: ";
6     cin>>a;
7     cout<<"Enter the 2nd num: ";
8     cin>>b;
9     c=a*b;
10    int *ptr1=&a;
11    int *ptr2=&b;
12    int *ptr3=&c;
13    cout<<"multiplication of a and b is = "<<*ptr3;
14    return 0;
15 }
16 }
```

Output

Clear

```
/tmp/pj4kp1jTPC.o
Enter the 1st num: 30
Enter the 2nd num: 2
multiplication of a and b is = 60
```

37°C
Haze

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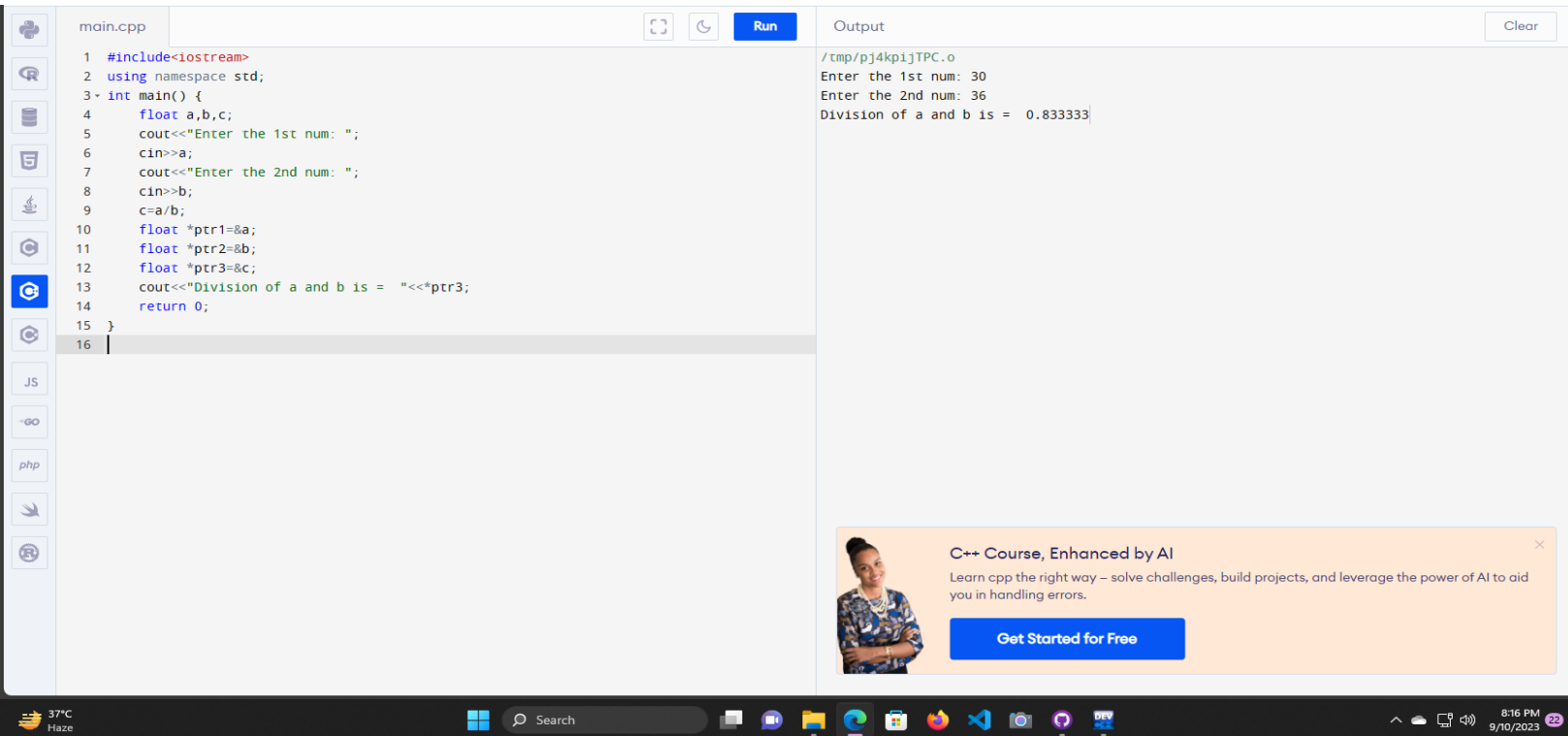
8:13 PM
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07



The screenshot shows a C++ IDE with a file named `main.cpp`. The code defines a `main` function that takes two floating-point numbers, `a` and `b`, as input. It then calculates the division of `a` by `b` and outputs the result. The output window shows the program's execution, where the user enters 30 and 36, and the program outputs 0.833333.

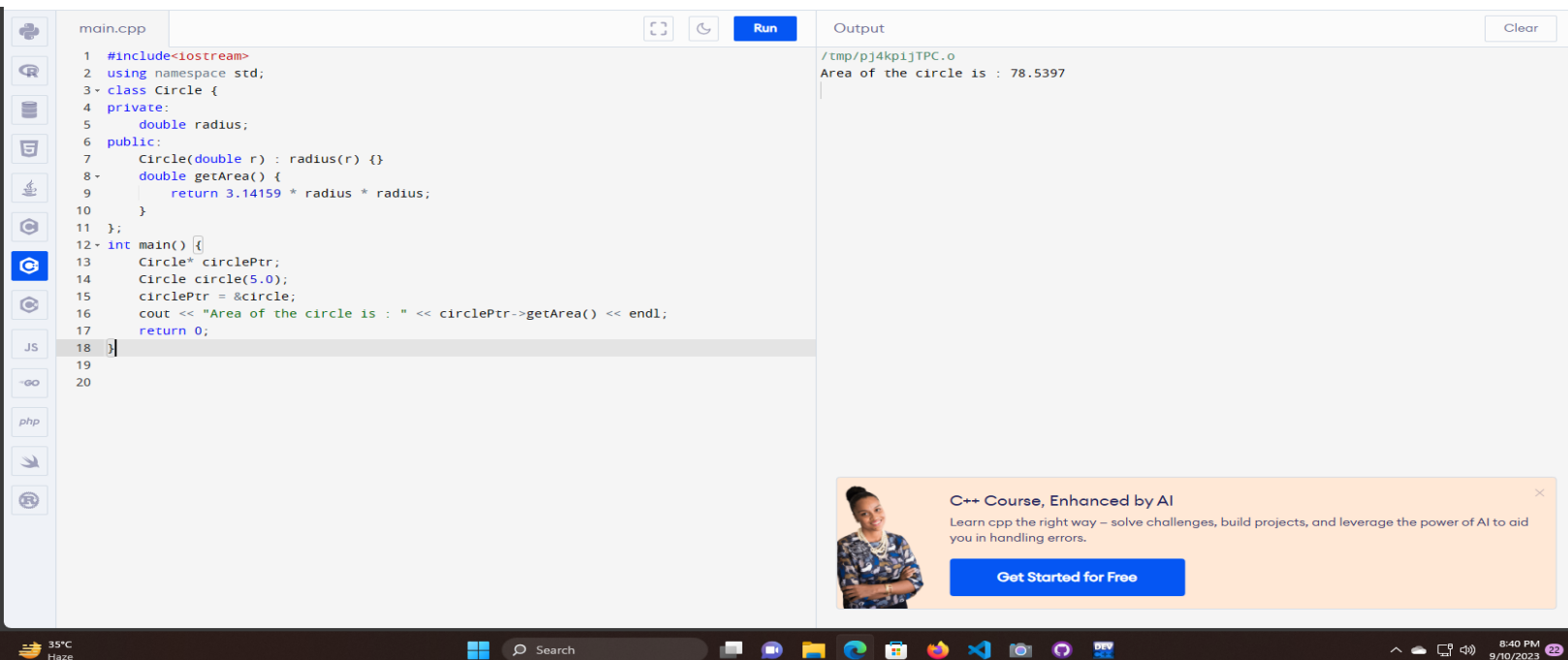
```
1 #include<iostream>
2 using namespace std;
3 int main() {
4     float a,b,c;
5     cout<<"Enter the 1st num: ";
6     cin>>a;
7     cout<<"Enter the 2nd num: ";
8     cin>>b;
9     c=a/b;
10    float *ptr1=&a;
11    float *ptr2=&b;
12    float *ptr3=&c;
13    cout<<"Division of a and b is = "<<*ptr3;
14    return 0;
15 }
```

Output:

```
/tmp/pj4kp1jTPC.o
Enter the 1st num: 30
Enter the 2nd num: 36
Division of a and b is = 0.833333
```

A banner for a C++ course is visible at the bottom right of the IDE window.

08



The screenshot shows a C++ IDE with a file named `main.cpp`. The code defines a `Circle` class with a `radius` attribute and a `getArea` method. The `main` function creates a `Circle` object with a radius of 5.0 and calls the `getArea` method to calculate the area. The output window shows the program's execution, where the program outputs the area of the circle as 78.5397.

```
1 #include<iostream>
2 using namespace std;
3 class Circle {
4 private:
5     double radius;
6 public:
7     Circle(double r) : radius(r) {}
8     double getArea() {
9         return 3.14159 * radius * radius;
10    }
11 };
12 int main() {
13     Circle* circlePtr;
14     Circle circle(5.0);
15     circlePtr = &circle;
16     cout << "Area of the circle is : " << circlePtr->getArea() << endl;
17     return 0;
18 }
```

Output:

```
/tmp/pj4kp1jTPC.o
Area of the circle is : 78.5397
```

A banner for a C++ course is visible at the bottom right of the IDE window.

09

main.cpp

Run

```
1 #include<iostream>
2 using namespace std;
3 struct Student {
4     int id;
5     string name;
6 }stu;
7
8 int main() {
9     Student *ptr = &stu;
10    ptr->id = 47;
11    ptr->name = "Janisar";
12    std::cout << "Student ID: " << ptr->id << ", Name: " << ptr->name << endl;
13    return 0;
14 }
```

Output

Clear

```
/tmp/pj4kpijTPC.o
Student ID: 47, Name: Janisar
```

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10

main.cpp

Run

```
1 #include<iostream>
2 using namespace std;
3 int main() {
4     char str[] = "Hey there! I am janisar";
5     char *ptr = str;
6     while (*ptr != '\0') {
7         cout << *ptr;
8         ptr++;
9     }
10    cout<<endl;
11    return 0;
12 }
```

Output

Clear

```
/tmp/pj4kpijTPC.o
Hey there! I am janisar
```

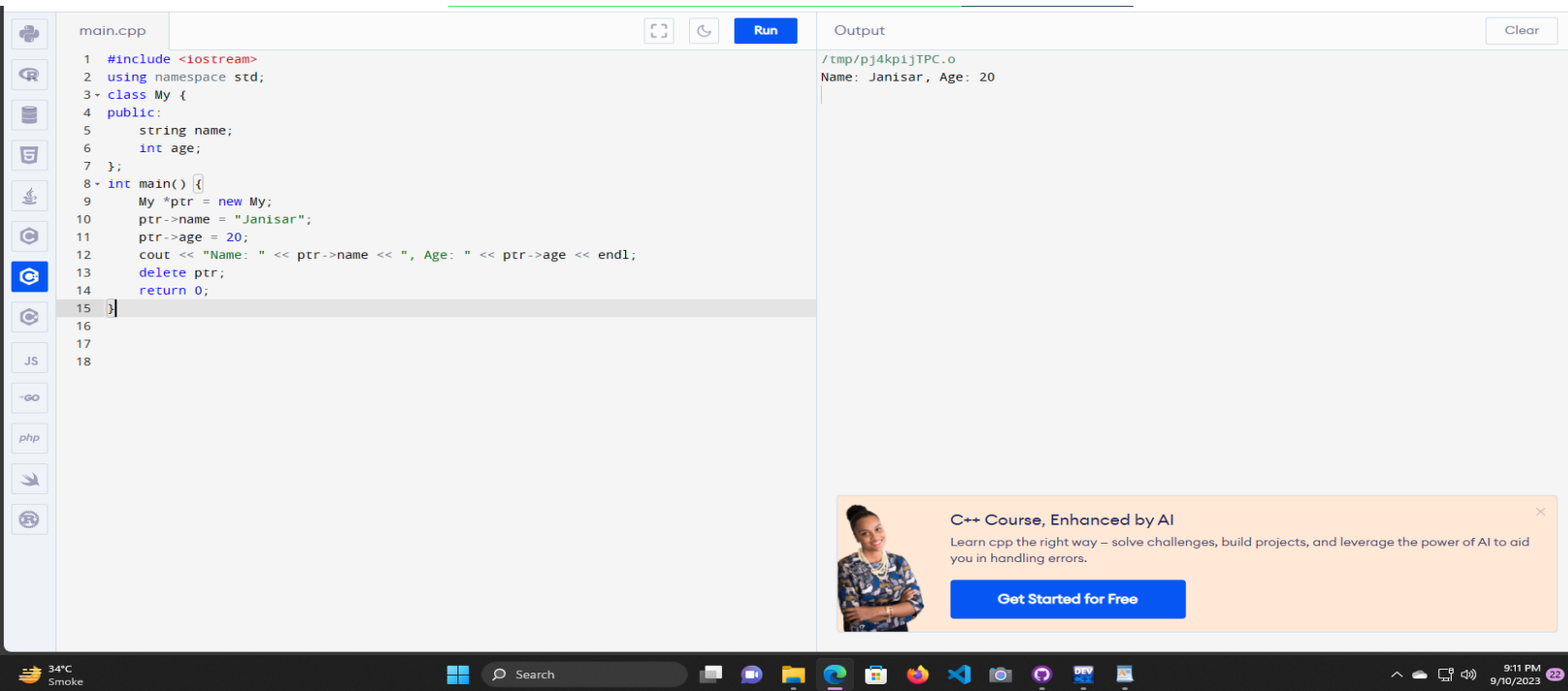
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11



The screenshot shows a C++ IDE with a file named `main.cpp`. The code defines a `My` class with `name` and `age` attributes. In the `main` function, a pointer `ptr` is created and assigned a `My` object with `name = "Janisar"` and `age = 20`. The program then prints the name and age of the object pointed to by `ptr` and finally deletes the pointer.

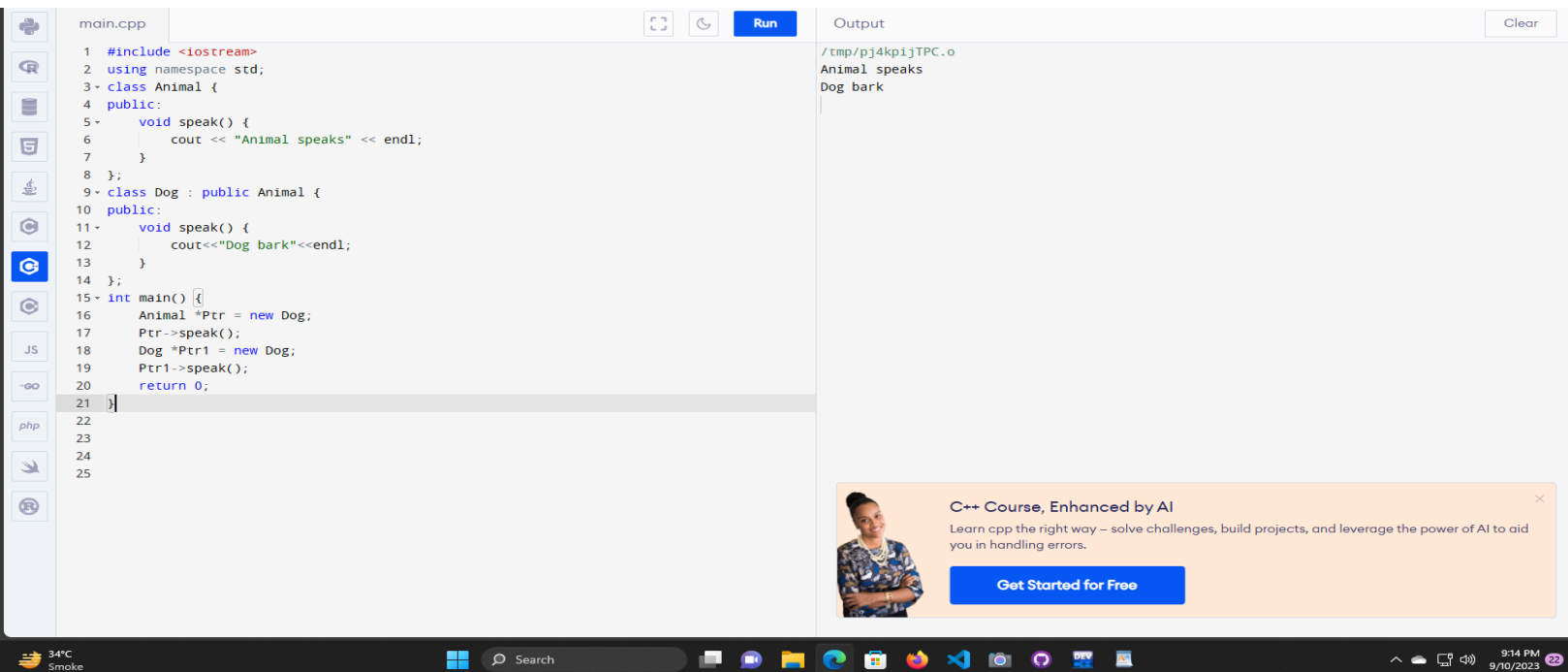
```
1 #include <iostream>
2 using namespace std;
3 class My {
4 public:
5     string name;
6     int age;
7 };
8 int main() {
9     My *ptr = new My;
10    ptr->name = "Janisar";
11    ptr->age = 20;
12    cout << "Name: " << ptr->name << ", Age: " << ptr->age << endl;
13    delete ptr;
14    return 0;
15 }
```

The output window shows the following text:

```
/tmp/pj4kp1jTPC.o
Name: Janisar, Age: 20
```

A promotional banner for a C++ course is visible at the bottom right of the IDE.

12



The screenshot shows a C++ IDE with a file named `main.cpp`. The code defines an `Animal` class with a `speak` method that prints "Animal speaks". A `Dog` class is derived from `Animal` and overrides the `speak` method to print "Dog bark". In the `main` function, two pointers are created: `Ptr` of type `Animal` pointing to a `Dog` object, and `Ptr1` of type `Dog` pointing to a `Dog` object. Both pointers are used to call the `speak` method.

```
1 #include <iostream>
2 using namespace std;
3 class Animal {
4 public:
5     void speak() {
6         cout << "Animal speaks" << endl;
7     }
8 };
9 class Dog : public Animal {
10 public:
11     void speak() {
12         cout << "Dog bark" << endl;
13     }
14 };
15 int main() {
16     Animal *Ptr = new Dog;
17     Ptr->speak();
18     Dog *Ptr1 = new Dog;
19     Ptr1->speak();
20     return 0;
21 }
```

The output window shows the following text:

```
/tmp/pj4kp1jTPC.o
Animal speaks
Dog bark
```

A promotional banner for a C++ course is visible at the bottom right of the IDE.

13

main.cpp

```
1 #include <iostream>
2 using namespace std;
3 class CS {
4 public:
5     string name;
6     int age;
7 };
8 int main() {
9     CS *Ptr = new CS[3];
10
11     Ptr[0].name = "Janisar";
12     Ptr[0].age = 20;
13
14     Ptr[1].name = "Zamar";
15     Ptr[1].age = 20;
16
17     Ptr[2].name = "Rafay";
18     Ptr[2].age = 21;
19
20     for(int i=0; i<3; i++) {
21         cout<< "Name: " << Ptr[i].name << ", Age: " << Ptr[i].age << endl;
22     }
23
24     delete[] Ptr;
25     return 0;
26 }
27
28
29
30
31
```

Run

Output

Clear

```
/tmp/pj4kp1jTPC.o
Name: Janisar, Age: 20
Name: Zamar, Age: 20
Name: Rafay, Age: 21
```

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14

main.cpp

```
1 #include<iostream>
2 using namespace std;
3 class Rectangle {
4 private:
5     int length;
6     int width;
7 public:
8     Rectangle(int l, int w){
9         length=l;
10        width=w;
11    }
12    double getArea() {
13        return length*width;
14    }
15 };
16 int main() {
17     Rectangle* Ptr;
18     Rectangle rectangle(5,6);
19     Ptr = &rectangle;
20     cout << "Area of the Rectangle is : " << Ptr->getArea() << endl;
21     return 0;
22 }
23
24
```

Run

Output

Clear

```
/tmp/pj4kp1jTPC.o
Area of the Rectangle is : 30
```

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