

COURSES



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## Output of C++ Program | Set 4

Difficulty Level: Rookie

Predict the output of below C++ programs.

### Question 1

```
#include<iostream>
using namespace std;

int x = 10;
void fun()
{
    int x = 2;
    {
        int x = 1;
        cout << ::x << endl;
    }
}

int main()
{
    fun();
    return 0;
}
```

*Output:* 10

If **Scope Resolution Operator** is placed before a variable name then the global variable is referenced. So if we remove the following line from the above program then it will fail in compilation.

```
int x = 10;
```

### Question 2

```
#include<iostream>
```

```
using namespace std;
class Point {
private:
    int x;
    int y;
public:
    Point(int i, int j); // Constructor
};

Point::Point(int i = 0, int j = 0) {
    x = i;
    y = j;
    cout << "Constructor called";
}

int main()
{
    Point t1, *t2;
    return 0;
}
```

*Output:* Constructor called.

If we take a closer look at the statement "Point t1, \*t2;" then we can see that only one object is constructed here. t2 is just a pointer variable, not an object.

### Question 3

```
#include<iostream>
using namespace std;

class Point {
private:
    int x;
    int y;
public:
    Point(int i = 0, int j = 0); // Normal Constructor
    Point(const Point &t); // Copy Constructor
};

Point::Point(int i, int j) {
    x = i;
    y = j;
    cout << "Normal Constructor called\n";
}

Point::Point(const Point &t) {
    y = t.y;
    cout << "Copy Constructor called\n";
}

int main()
{
    Point *t1, *t2;
    t1 = new Point(10, 15);
    t2 = new Point(*t1);
    Point t3 = *t1;
    Point t4;
```

```
t4 = t3;  
return 0;  
}
```

### Output:

Normal Constructor called

Copy Constructor called

Copy Constructor called

Normal Constructor called

See following comments for explanation:

```
Point *t1, *t2; // No constructor call  
t1 = new Point(10, 15); // Normal constructor call  
t2 = new Point(*t1); // Copy constructor call  
Point t3 = *t1; // Copy Constructor call  
Point t4; // Normal Constructor call  
t4 = t3; // Assignment operator call
```

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