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Output of C++ Program | Set 6



Predict the output of below C++ programs.

Question 1

```
#include<iostream>

using namespace std;

class Test {
  int value;
public:
  Test (int v = 0) {value = v;}
  int getValue() { return value; }
};

int main() {
  const Test t;
  cout << t.getValue();
  return 0;
}
```

```
> prog.c:1:20: fatal error: iostream: No such file or directory
   #include<iostream>
                ^
 compilation terminated.
```

Output: Compiler Error.

A const object cannot call a non-const function. The above code can be fixed by either making getValue() const or making t non-const. Following is modified program with getValue() as const, it works fine and prints 0.

```
#include<iostream>

using namespace std;

class Test {
  int value;
```





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```
int main() {
    const Test t;
    cout << t.getValue();
    return 0;
}
```



prog.c:1:20: fatal error: iostream: No such file or directory
#include<iostream>
^
compilation terminated.

Question 2

```
#include<iostream>

using namespace std;

class Test {
    int &t;
public:
    Test (int &x) { t = x; }
    int getT() { return t; }
};

int main()
{
    int x = 20;
    Test t1(x);
    cout << t1.getT() << " ";
    x = 30;
    cout << t1.getT() << endl;
    return 0;
}
```



prog.cpp: In constructor 'Test::Test(int&)':
prog.cpp:9:2: error: uninitialized reference member in 'int&' [-fpermissive]
Test (int &x) { t = x; }
^
prog.cpp:7:7: note: 'int& Test::t' should be initialized
int &t;
^

Output: Compiler Error

Since t is a reference in Test, it must be initialized using Initializer List. Following is the modified program. It works and prints "20 30".



```
class Test {
    int &t;
public:
    Test (int &x):t(x) { }
    int getT() { return t; }
};

int main() {
    int x = 20;
    Test t1(x);
    cout << t1.getT() << " ";
    x = 30;
    cout << t1.getT() << endl;
    return 0;
}
```

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