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NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » Programming in Modern C++ (course)

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Course
outline

How does an
NPTEL
online
course
work? ()

Week 0 ()

Week 1 ()

Week 2 ()

Week 3 ()

Week 4 ()

● Lecture 16 :
Static
Members
(unit?
unit=52&lesson=53)

● Lecture 17 :
Friend
Function and
friend Class

Week 4 : Assignment 4

The due date for submitting this assignment has passed.

Due on 2023-02-22, 23:59 IST.

Assignment submitted on 2023-02-18, 14:38 IST

1)

2 points

Consider the following code segment.

```
#include<iostream>
using namespace std;
class myClass{
    static int s;
public:
    myClass(int _s) : s(_s) { }
    void incr(){ s = s+10; }
    void print(){ cout << s; }
};
int myClass::s = 10;
int main(){
    myClass o1(5), o2(10);
    o1.incr();
    o2.incr();
    o2.print();
    return 0;
}
```

What will be the output/error?

- a) 15
- b) 20
- c) 30

d) Compilation Error: myClass::s is a static data member; it can only be initialized at its definition

- ☐ a)
- ☐ b)

(unit?
unit=52&lesson=54)

- ☐ c)
☒ d)

● Lecture 18 :
Overloading
Operator for
User-Defined
Types: Part 1
(unit?
unit=52&lesson=55)

Yes, the answer is correct.
Score: 2
Accepted Answers:
d)

2)

2 points

Consider the following code segment.

```
#include<iostream>
using namespace std;
class Point{
    int x, y;
public:
    Point(int r=0, int i=0) : x(r), y(i) {}
    Point& operator<< (const Point& c){ //Line-1
        cout << x+c.x << ", " << y+c.y << endl;
        return *this;
    }
    friend Point& operator<<(ostream& os, Point& c);
};
Point& operator<<(ostream& os, Point& c){ //Line-2
    cout << c.x << ", " << c.y << endl;
    return c;
}
int main(){
    Point c1(2,5), c2(4,6);
    cout << c1 << c2;
    return 0;
}
```

What will be the output?

- a) 2,5
4,6
b) 6,5
2,11
c) 6,11
2,5
d) 2,5
6,11

● Quiz: Week 4
: Assignment
4
(assessment?
name=177)

● W4_Programming_Qs-
1
(/noc23_cs50/progassignment?
name=178)

● W4_Programming_Qs-
2
(/noc23_cs50/progassignment?
name=179)

● W4_Programming_Qs-
3
(/noc23_cs50/progassignment?
name=180)

- ☐ a)
☐ b)
☐ c)



☐ Week 4
Feedback
Form (unit?
unit=52&lesson=60)

☒ Assignment 4
Solution (unit?
unit=52&lesson=61)

Week 5 ()

Week 6 ()

Week 7 ()

Week 8 ()

Download
Videos ()

Books ()

Transcripts ()

Problem
Solving
Session ()

☒ d)

Yes, the answer is correct.

Score: 2

Accepted Answers:

d)

3)

2 points

Consider the following code segment.

```
#include <iostream>
using namespace std;
int var = 0;
namespace name {
    int var = 2;
}
int main() {
    int var = 1;
    {
        using namespace name;
        cout << ::var << " " << var << " " << name::var; // LINE-1
    }
    return 0;
}
```

What will be the output/error?

a) 0 1 2

b) 0 2 2

c) 2 0 1

d) Compilation Error: reference to 'var' is ambiguous

☒ a)

☐ b)

☐ c)

☐ d)

Yes, the answer is correct.

Score: 2

Accepted Answers:

a)

4)

2 points



Consider the following code segment.

```
#include <iostream>
using namespace std;
class myClass {
    static int X;
    static int Y;
public:
    ----- void print() {           //LINE-1
        cout << X << " " << Y;
    }
    void setX(int a){
        X=a;
    }
    void setY(int a){
        Y=a;
    }
};
int myClass::X = 10;
int myClass::Y = 10;
int main() {
    myClass t1, t2;
    t1.setX(4);
    t2.setY(5);
    myClass::print();
    return 0;
}
```

Fill in the blank at LINE-1 such that the output will be 4 5.

- a) mutable
- b) static
- c) const
- d) friend

- ☒ a)
- ☐ b)
- ☐ c)
- ☐ d)

No, the answer is incorrect.
Score: 0

Accepted Answers:

b)

5)



Consider the following code segment.

```
#include<iostream>
using namespace std;
int x=10;
namespace e{
    namespace e1{
        int x=15;
    }
    int x=5;
}
int main(){
    _____; //LINE-1
    cout << x;
    return 0;
}
```

Fill in the blank at LINE-1 such that the program will print 15.

- a) using e::e1::x
- b) using e::e1
- c) using namespace e::e1
- d) using namespace e

- ☒ a)
- ☐ b)
- ☐ c)
- ☐ d)

Yes, the answer is correct.

Score: 2

Accepted Answers:

a)



6) Consider the following code segment.

2 points

```
#include<iostream>
using namespace std;
class constTest{
    ----- x; //LINE-1
public:
    constTest(int _x) : x(_x) {}
    void set(int a) const{
        x = a;
    }
    void print() const{
        cout << x << endl;
    }
};
int main(){
    const constTest m(5);
    m.set(10);
    m.print();
    return 0;
}
```

Fill in the blank at LINE-1 such that the output is 10.

- a) int mutable
- b) mutable int
- c) volatile int
- d) const int

- ☒ a)
- ☒ b)
- ☐ c)
- ☐ d)

Yes, the answer is correct.
Score: 2

Accepted Answers:

- a)
- b)



7) Consider the following code segment.

2 points

```
#include<iostream>
using namespace std;
namespace name{
    class Student{
        int roll;
    public:
        Student(int x) : roll(x) {}
        void print(){ cout << roll; }
    };
}
int main(){
    _____; //LINE-1
    s.print();
    return 0;
}
```

Fill in the blank at LINE-1 such that the output is 5.

- a) name::Student s(5)
- b) Student s(5)
- c) name.Student s(5)
- d) using name::Student s(5)

- ☒ a)
- ☐ b)
- ☐ c)
- ☐ d)

Yes, the answer is correct.
Score: 2

Accepted Answers:

a)

8)

2 points



Consider the following code segment.

```
#include<iostream>
using namespace std;
class Point{
    int x, y;
public:
    Point(int _x, int _y) : x(_x), y(_y) {}
    -----; //LINE-1
};
Point& operator<< (ostream& os, Point& p){
    cout << "(" << p.x << "," << p.y << ")" << endl;
    return p;
}
int main(){
    Point pt(2,5);
    cout << pt;
    return 0;
}
```

Fill in the blank at LINE-1 such that the program will print (2,5).

- a) Point& operator<< (ostream&, Point&)
- b) friend Point& operator<< (ostream&, Point&)
- c) Point& friend operator<< (ostream&, Point&)
- d) const Point& operator<< (ostream&, Point&)

- ☐ a)
- ☒ b)
- ☐ c)
- ☐ d)

Yes, the answer is correct.

Score: 2

Accepted Answers:

b)

9)

2 points



Consider the following code segment.

```
#include<iostream>
using namespace std;
class A{
    static int a;
    public:
        int get(){ return a; }
        -----; //LINE-1
};
int A::a = 0;
class B{
    int b;
    public:
        B(int y) : b(y) {}
        void print(){
            A::a = 10;
            cout << A::a-b << " " << A::a+b;
        }
};
int main(){
    B t2(5);
    t2.print();
    return 0;
}
```

Fill in the blank at LINE-1 such that the program will print 5 15.

- a) static class B
- b) friend class B
- c) class friend B
- d) using class B

- ☐ a)
- ☒ b)
- ☐ c)
- ☐ d)

Yes, the answer is correct.

Score: 2

Accepted Answers:

b)



