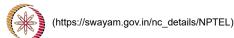
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NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » Programming in C++ (course)

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# Unit 4 - Week 2

# Course outline

How does an NPTEL online course work?

## Week 0

### Week 1

#### Week 2

- Module 6:

   Constants and
   Inline Functions
   (Lecture 08)
   (unit?
   unit=27&lesson=28)
- Module 6:

   Constants and
   Inline Functions
   (Contd.) (Lecture
   (Unit?
   Unit=27&lesson=29)
- Module 7:
   Reference and
   Pointer (Lecture
   10) (unit?
   unit=27&lesson=30)

# **Assignment 2**

The due date for submitting this assignment has passed.

Due on 2020-09-30, 23:59 IST.

# Assignment submitted on 2020-09-30, 23:02 IST

Consider the below code segment.

2 points

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

#define X 5

int main() {
   int n = 10;
   X = n; // LINE-1

   cout << X;

   return 0;
}</pre>
What will be the output/error of the above code?
```

(a) 5

- Module 7:
   Reference and
   Pointer (Contd.)
   (Lecture 11)
   (unit?
   unit=27&lesson=31)
- Module 8:

   Default
   Parameters and
   Function
   Overloading
   (Lecture 12)
   (unit?

   unit=27&lesson=32)
- Module 8 :
   Default
   Parameters and
   Function
   Overloading
   (Contd.) (Lecture
   13) (unit?
   unit=27&lesson=33)
- Module 8:

   Default
   Parameters and
   Function
   Overloading
   (Contd.) (Lecture 14) (unit?
   unit=27&lesson=34)
- Module 9 :
   Operator
   Overloading
   (Lecture 15)
   (unit?
   unit=27&lesson=35)
- Module 9 :
   Operator
   Overloading
   (Contd.) (Lecture
   16) (unit?
   unit=27&lesson=36)
- Module 10 :
   Dynamic Memory
   Management
   (Lecture 17)
   (unit?
   unit=27&lesson=37)
- Module 10 :
   Dynamic Memory
   Management
   (Contd.) (Lecture

```
○ b) 10
○ c) 0
```

d) Compilation error at LINE-1: lvalue required as left operand of assignment.

Yes, the answer is correct.

Score: 2

Accepted Answers:

- d) Compilation error at LINE-1: lvalue required as left operand of assignment.
- Consider the following code segment.

2 noints

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

int main() {
   int n = 2, m = 3;
   int * const p; // LINE-1

   p = &n; // LINE-2
   cout << *p;

   return 0;
}</pre>
```

What will be the output of /error in the above code?

- □ a) 2
- □ b) ⟨garbage\_value⟩
- C) Compilation error at LINE-1: uninitialized const 'p'.
- d) Compilation error at LINE-2: assignment of read-only variable 'p'.

Yes, the answer is correct.

Score: 2

Accepted Answers:

- c) Compilation error at LINE-1: uninitialized const 'p'.
- d) Compilation error at LINE-2: assignment of read-only variable 'p'.

3) 2 points

```
18) (unit?
                       Consider below code segment.
  unit=27&lesson=38)
                       #include<iostream>

    Lecture Materials

  (unit?
                       using namespace std;
  unit=27&lesson=39)
                       struct complex{
Quiz :
  Assignment 2
                           int re, im;
  (assessment?
                           void print(){ cout << re << "+i" << im; }</pre>
  name=125)
                       };
W2_Programming-
                                                                         //Line-1
  (/noc20_cs57/progassignm _____{
                           struct complex c3={0,0};
  name=129)
                           c3.re = c1.re+c2.re;
W2 Programming-
                           c3.im = c1.im+c2.im;
  (/noc20_cs57/progassignm
                           return c3;
  name=130)
                       }
W2 Programming-
                       int main(){
  (/noc20 cs57/progassignm
                           struct complex c1=\{2,5\}, c2\{3,-2\};
  name=131)
                           struct complex t = c1 + c2;
W2_Programming-
                           t.print();
                           return 0;
  (/noc20_cs57/progassignm
  name=132)

    Feedback For

                       Complete operator overloading for structure complex at Line-1 so that the output is "5+i3".
  Week 2 (unit?
  unit=27&lesson=40)
                         a) complex operator+(complex &c1, complex &c2)
Week 3
                         b) complex operator+(const complex &c1, const complex &c2)
Week 4
                         c) operator+(complex &c1, complex &c2)
                         d) complex +(complex &c1, complex &c2)
Week 5
                        Yes, the answer is correct.
Week 6
                        Score: 2
                        Accepted Answers:
Week 7
                        a) complex operator+(complex &c1, complex &c2)
                        b) complex operator+(const complex &c1, const complex &c2)
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                       4)
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Assignment
Solution
```

**Books** 

2 points

## Live Interactive Session

Consider the following code segment. What will be the output of the following program? #include <iostream> using namespace std; int main() { int a = 5; int &b = a; ++a; ++b; a = a + b; cout << a; return 0; } (a) 10 ○ b) 11 ○ c) 13 (a) 14 Yes, the answer is correct. Score: 2 Accepted Answers: d) 14 2 points 5) Consider the below program: #include <iostream> using namespace std; void fun(int a = 0) { cout << "1st" << endl; }</pre> void fun() { cout << "2nd" << endl; }</pre> int main() { fun(); // LINE-1 return 0; } What will be the output/error of the above code? a) 1st

```
b) 2nd
  _ c) 1st
        2nd
  Od) Compilation error at LINE-1: call of overloaded fun() is ambiguous.
Yes, the answer is correct.
Score: 2
Accepted Answers:
 d) Compilation error at LINE-1: call of overloaded fun() is ambiguous.
6)
                                                                            2 points
Consider the following code segment.
#include <iostream>
using namespace std;
int main() {
    int a = 2;
    int &ra = a;
    const int &cra = a;
    const int &cra_1 = a + 1;
    cout << (&a == &ra) << " " << (&a == &cra) << " " << (&a == &cra_1);
    return 0;
}
What will be the output of the above code?
  ○ a) 0 0 0

    b) 1 1 0

  o c) 100
  Od) 111
Yes, the answer is correct.
Score: 2
Accepted Answers:
 b) 1 1 0
```

7) What is the output/error in the following code?

```
2 points
```

```
#include <iostream>
 using namespace std;
 void fun(int &a, int b) {
      a = a + b;
 }
  int main() {
      int a = 10;
      fun(a, a);
      cout << a;
      return 0;
 }
 (a) 20
 Ob) 10
 (c) 0
 ○ d) ⟨garbage_value⟩
Yes, the answer is correct.
Score: 2
Accepted Answers:
a) 20
```

2 points Consider the code segment below. #include <iostream> using namespace std; #define MUL(x,y) x\*y int main() { int a = 10, b = 5, c, d; c = MUL(a, b + 1);d = MUL(a + 1, b);cout << c << " " << d; return 0; } What will be the output? (a) 60 55 b) 51 15 o c) 60 15 Od) 51 55 Yes, the answer is correct. Score: 2 Accepted Answers: b) 51 15 2 points Consider the code segment below. #include <iostream> using namespace std; int main() { const int \*a = new int[2]; // LINE-1 cout << \*a << " " << \*(a + 1); return 0; } Modify LINE-1 such that it will print 5 10.  $\bigcirc$  a) const int \*a = new int(2){5,10};

```
b) const int *a = new int[2] {5,10};
c) const int *a = new int[2] (5,10);
d) const int *a = new int(2) (5,10);
Yes, the answer is correct.
Score: 2
Accepted Answers:
b) const int *a = new int[2] {5,10};
```