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**NPTEL** (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » **Programming in C++ (course)**[Announcements \(announcements\)](#)   **[About the Course \(preview\)](#)**   [Ask a Question \(forum\)](#)[Progress \(student/home\)](#)   [Mentor \(student/mentor\)](#)

## 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  
09) (unit?  
unit=27&lesson=29)
- Module 7 :  
Reference and  
Pointer (Lecture  
10) (unit?  
unit=27&lesson=30)
- Module 7 :  
Reference and  
Pointer (Contd.)

## Assignment 2

The due date for submitting this assignment has passed.   **Due on 2020-09-30, 23:59 IST.**

**Assignment submitted on 2020-09-29, 09:51 IST**

1) 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;
}
```

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

- ☐ a) 5
- ☐ b) 10
- ☐ c) 0

(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  
18) (unit?  
unit=27&lesson=38)

Lecture Materials  
(unit?  
unit=27&lesson=39)



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.

2) Consider the following code segment.

2 points

```
#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;
}
```

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

## ● Quiz :

**Assignment 2**  
(assessment?  
name=125)● W2\_Programming-  
Qs1(/noc20\_cs57/progassignm  
name=129)● W2\_Programming-  
Qs2(/noc20\_cs57/progassignm  
name=130)● W2\_Programming-  
Qs3(/noc20\_cs57/progassignm  
name=131)● W2\_Programming-  
Qs4(/noc20\_cs57/progassignm  
name=132)● Feedback For  
Week 2 (unit?

unit=27&amp;lesson=40)

**Week 3****Week 4****Week 5****Week 6****Week 7****DOWNLOAD  
VIDEOS****Text Transcripts****Assignment  
Solution****Books****Live Interactive  
Session**

Consider below code segment.

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

struct complex{
    int re, im;
    void print(){ cout << re << "+i" << im; }
};

-----{ //Line-1
    struct complex c3={0,0};
    c3.re = c1.re+c2.re;
    c3.im = c1.im+c2.im;
    return c3;
}

int main(){
    struct complex c1={2,5},c2{3,-2};
    struct complex t = c1 + c2;
    t.print();
    return 0;
}
```

Complete operator overloading for structure complex at Line-1 so that the output is "5+i3".

- ☒ a) complex operator+(complex &c1, complex &c2)
- ☒ b) complex operator+(const complex &c1, const complex &c2)
- ☐ c) operator+(complex &c1, complex &c2)
- ☐ d) complex +(complex &c1, complex &c2)

Yes, the answer is correct.

Score: 2

Accepted Answers:

a) complex operator+(complex &amp;c1, complex &amp;c2)

b) complex operator+(const complex &amp;c1, const complex &amp;c2)

4)

**2 points**

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
- ☒ d) 14

Yes, the answer is correct.

Score: 2

Accepted Answers:

d) 14

5) Consider the below program:

2 points

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

void fun(int a = 0) { cout << "1st" << endl; }

void fun() { cout << "2nd" << endl; }

int main() {
    fun(); // LINE-1

    return 0;
}
```

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

- ☐ a) 1st
- ☒ b) 2nd
- ☐ c) 1st  
2nd
- ☐ d) Compilation error at LINE-1: call of overloaded fun() is ambiguous.

No, the answer is incorrect.

Score: 0

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
- ☐ c) 1 0 0
- ☐ d) 1 1 1

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  
☐ b) 10  
☐ c) 0  
☐ d) *<garbage\_value>*

Yes, the answer is correct.

Score: 2

Accepted Answers:

a) 20

8) Consider the code segment below.

2 points

```
#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
- ☐ c) 60 15
- ☐ d) 51 55

Yes, the answer is correct.

Score: 2

Accepted Answers:

b) 51 15

9) Consider the code segment below.

**2 points**

```
#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.

- ☐ 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};`