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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)

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Course outline

**How does an NPTEL online course work?**

**Week 0**

**Week 1**

**Week 2**

**Week 3**

**Week 4**

**Week 5**

- Module 21 : Inheritance : Part I (Lecture 36) (unit?unit=64&lesson=65)
- Module 22 : Inheritance : Part II (Lecture 37) (unit?unit=64&lesson=66)
- Module 23 : Inheritance : Part III (Lecture 38)

# W5_Programming-Qs2

**Due on 2020-10-22, 23:59 IST**

Consider the following program. Fill in the blanks in LINE-1 such that global function `dist` can access private member of class `Coordinate`. Fill in the blanks at LINE-2 and LINE-3 to complete `constructor` definition. Consider the given test cases.

| Private Test cases used for evaluation | Input | Expected Output | Actual Output | Status |
|---|---|---|---|---|
| Test Case 1 | 1 0 2 1 1 | 1.73205 \n | 1.73205 \n | Passed |

The due date for submitting this assignment has passed.
1 out of 1 tests passed.
You scored 100.0/100.

**Assignment submitted on 2020-10-22, 23:33 IST**
Your last recorded submission was :

```
1  #include <iostream>
2
3  #include <cmath>
4
5  using namespace std;
6
7  class Coordinate {
8
9      int x, y, z;
10
11 public:
12     Coordinate(int _x, int _y, int _z = 0) :
13         x(_x), y(_y), z(_z) {    }
14     friend double dist(Coordinate &c1, Coordinate &c2); // LINE-1
15 };
16
17 class TwoDCoordinate : public Coordinate {
```

(unit?
unit=64&lesson=67)

- Module 24 : Inheritance : Part IV (Lecture 39) (unit? unit=64&lesson=68)
- Module 25 : Inheritance : Part V (Lecture 40) (unit? unit=64&lesson=69)
- Lecture Materials (unit? unit=64&lesson=70)
- Quiz : Assignment 5 (assessment? name=153)
- W5_Programming-Qs1 (/noc20_cs57/progassignm... name=149)
- **W5_Programming-Qs2 (/noc20_cs57/progassignment? name=156)**
- W5_Programming-Qs3 (/noc20_cs57/progassignment? name=157)
- Feedback For Week 5 (unit? unit=64&lesson=71)

**Week 6**

**Week 7**

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**Text Transcripts**

**Assignment Solution**

**Books**

```
18
19 public:
20
21     TwoDCoordinate(int _x,int _y,int _z=0) : // LINE-2
22
23         Coordinate(_x, _y, _z) { }
24 };
25
26 class ThreeDCoordinate : public Coordinate {
27
28 public:
29
30     ThreeDCoordinate(int _x,int _y,int _z) : // LINE-3
31
32         Coordinate(_x, _y, _z) { }
33 };
34 double dist(Coordinate &c1, Coordinate &c2) {
35     return sqrt(pow((c1.x - c2.x), 2) +
36                 pow((c1.y - c2.y), 2) +
37                 pow((c1.z - c2.z), 2));
38 }
39
40 int main() {
41     int x1, y1, x2, y2, z2;
42     cin >> x1 >> y1 >> x2 >> y2 >> z2;
43
44     TwoDCoordinate t1(x1, y1);
45     ThreeDCoordinate t2(x2, y2, z2);
46
47     cout << dist(t1, t2) << endl;
48
49     return 0;
50 }
```

**Live Interactive Session**