



Student Name:	Student Number:
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1. Identify the errors in the following programs and explain how you would correct them:

a) (Give two ways to fix this code.)

```
#include <iostream>

int main() {
    printNum(35);
    return 0;
}

void printNum(int number) { std::cout << number; }
```

b)

```
#include <iostream>

using namespace std;

int main()
{
    int arg1;
    arg1 = -1;
    int x, y, z;
    char myDouble = '5';
    char arg1 = 'A';
    cout << arg1 << "\n";
    return 0;
}
```



c) (Changing the return type of doubleNumber is not a valid solution.)

```
#include <iostream>

void doubleNumber(int num) {num = num * 2;}

int main() {
    int num = 35;
    doubleNumber(num);
    std::cout << num; // Should print 70
    return 0;
}
```

d)

```
class Point
{
private:
    int x, y;

public:
    Point(int u, int v) {x = u; y = v;}
    int getX() { return x; }
    int getY() { return y; }
};

int main()
{
    Point p(5, 3);
    cout << p.x << " " << p.y << "\n";
    return 0;
}
```



2. Answer questions after going through the following programs:

a)

```
class Seminar
{
    int time;
public:
    Seminar()          //Function 1
    {
        time = 30;
        cout << "Seminar starts now" << endl;
    }

    void lecture()     //Function 2
    {
        cout << "Lectures in the seminar on" << endl;
    }

    Seminar(int duration) //Function 3
    {
        time = duration;
        cout << "Seminar starts now" << endl;
    }

    ~Seminar()        //Function 4
    {
        cout << "Thanks" << endl;
    }
};
```

1. Write statements that would **execute** Function 1 and Function 3 of class Seminar.
.....
2. In Object Oriented Programming (OOP), what is Function 4 referred as and when does it get called?
.....
3. In Object Oriented Programming (OOP), what is Function 1 and Function 3 referred as and when does it get called?
.....

b)

```
class Sample
{
private:
    int x;
    double y;
public :
    Sample(); //Constructor 1
    Sample(int); //Constructor 2
    Sample(int, int); //Constructor 3
    Sample(int, double); //Constructor 4
};
```

1. Write the definition of the constructor 1 that the private variables x, y are initialized to 0.
.....
2. Write the definition of the constructor 2 that the private variable x is initialized according to the value of the parameter and the private variable is initialized to 0.
.....



3. Write C++ program that contain a class **student** with the following specification

- **Private members** of class student:

admno integer

sname string

eng. math, science float

total float

ctotal() a function to calculate eng + math + science with float return type.

- **Public member** function of class student:

Takedata() Function to accept values for admno, sname, eng, science and call ctotal() to calculate total.

Showdata() Function to display all the data members on the screen.

- You should capture the final result after running your code.