```
/*
Abhimanyu 7098
Program-15 : Use of Static Class member
 */
 #include<iostream>
using namespace std;

class item{ static int
        count; int
        number; public:
        void getdata(int a){ number=a;
                count++;
        }
        void getcount(void){ cout <<
                "Count: "; cout <<
                count << endl;
        } }; int
 item :: count;
int main(){ item
 a,b,c;
        a.getcount();
        b.getcount();
        c.getcount();

        a.getdata(100);
        a.getdata(200);
        a.getdata(300);

        cout << "After reading data" << endl;

        a.getcount();
        b.getcount();
        c.getcount();
        return 0;
 }
```

Output:

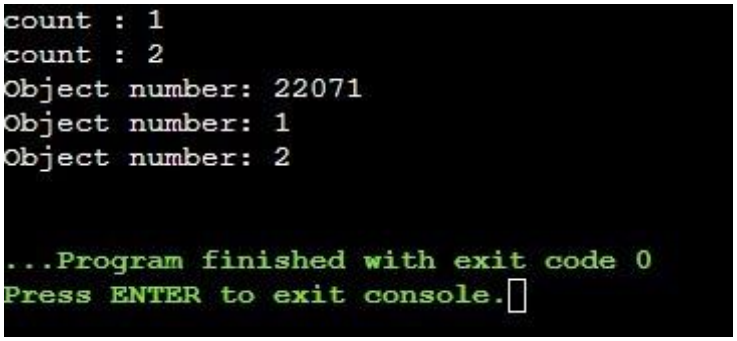
```
Count: 0
Count: 0
Count: 0
After reading data
Count: 3
Count: 3
Count: 3


...Program finished with exit code 0
Press ENTER to exit console.
```

```
/*
 Abhimanyu 7098
 Program-16 : Use of static Member function
  */
 #include<iostream>
 using namespace std;
 class test{ int code; static int
 count; public:
        void setcode(void){
              code=++count;
        } void showcode(void){ cout << "Object number:
        " << code << endl;
        } static void showcount(void){ cout <<
        "count : " << count << endl;
        } }; int test
 :: count; int
 main(){
        test t1,t2; t2.setcode();
        test :: showcount(); test
        t3; t3.setcode(); test ::
        showcount();
        t1.showcode();
        t2.showcode();
        t3.showcode(); return 0;

 }
```

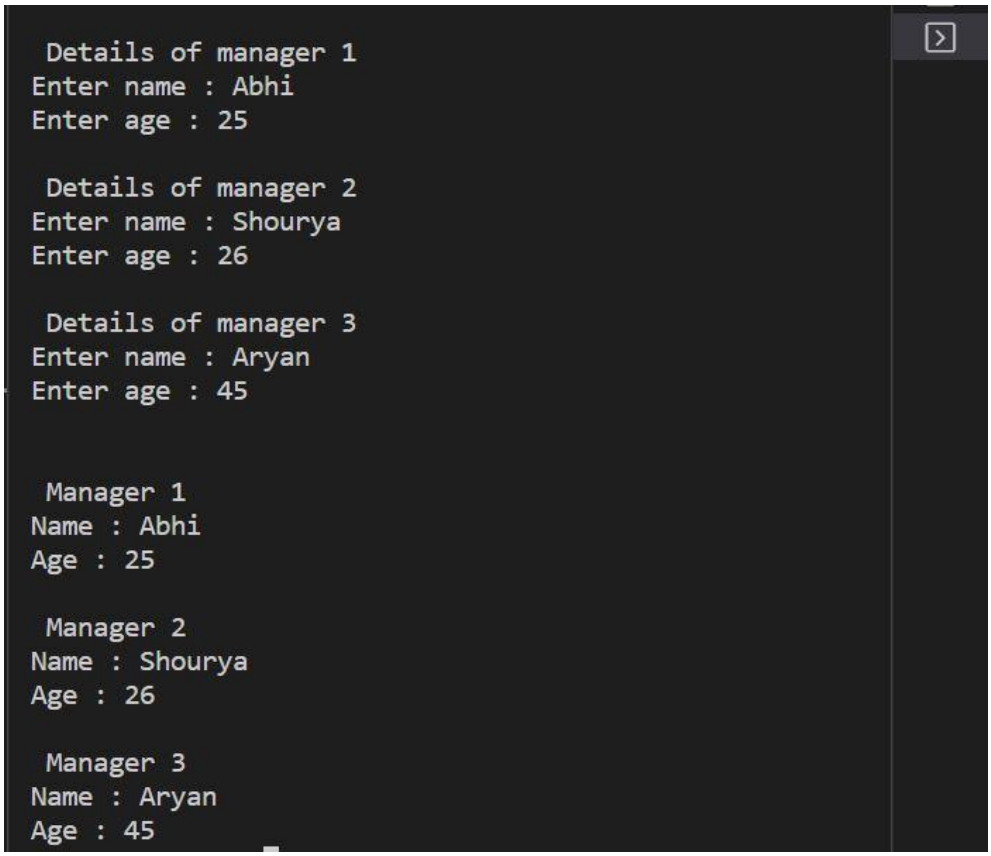
Output:



```
/*
 Abhimanyu 7098
 Program-17 : Array of Objects
 */
 #include<iostream>
  using namespace std;

 class employee{ char
        name[30]; float age;
        public: void
        getdata(void); void
        putdata(void);
 }; void employee :: getdata(void){ cout << "Enter
 name : "; cin >> name; cout << "Enter age : "; cin
 >> age; } void employee :: putdata(void){ cout
 << "Name : " << name << endl; cout <<
        "Age : " << age << endl;
 } int main(){ const int size=3; employee manager[size];
 for(int i=0;i<size;i++){ cout << "\n Details of manager "
 << i+1 << endl; manager[i].getdata();
        } cout <<
        "\n"; for(int
        i=0;i<size;i+
        +){ cout <<
        "\n Manager
        " << i+1 <<
        "\n";
        manager[i].p
        utdata();
        } return
        0;
 }
```

Output:


Details of manager 1
Enter name : Abhi
Enter age : 25
Details of manager 2
Enter name : Shourya
Enter age : 26
Details of manager 3
Enter name : Aryan
Enter age : 45
Manager 1
Name : Abhi
Age : 25
Manager 2
Name : Shourya
Age : 26
Manager 3
Name : Aryan
Age : 45

```
/*
Abhimanyu 7098
Program-18 : Objects as arguments
*/
#include <iostream>
using namespace std;

class thime{ int hours,
        minutes; public:
        void gettime(int h, int m){ hours = h;
                minutes = m;
        } void puttime(){ cout << hours << " hours
        and "; cout << minutes << " minutes" <<
        endl;
        } void
        sum(thime,thime);
};

void thime::sum(thime t1, thime t2){ minutes =
        t1.minutes + t2.minutes; hours =
        minutes/60; minutes = minutes%60; hours
        = hours + t1.hours + t2.hours;
}
int main(){ thime t1, t2, t3;
t1.gettime(2,45);
t2.gettime(3,30);
t3.sum(t1,t2); cout << "T1
= "; t1.puttime(); cout
<<"T2 = "; t2.puttime();
cout << "T3 = ";
t3.puttime(); return 0;
}
```

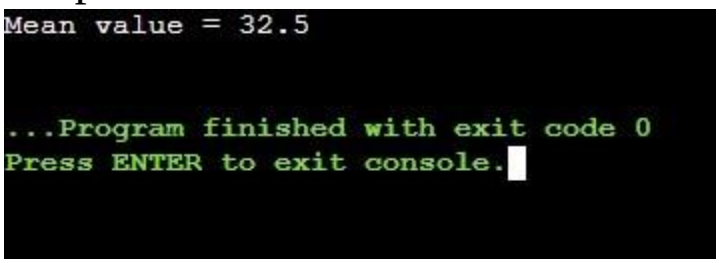
Output:

```
T1 = 2 hours and 45 minutes
T2 = 3 hours and 30 minutes
T3 = 6 hours and 15 minutes


...Program finished with exit code 0
Press ENTER to exit console.
```

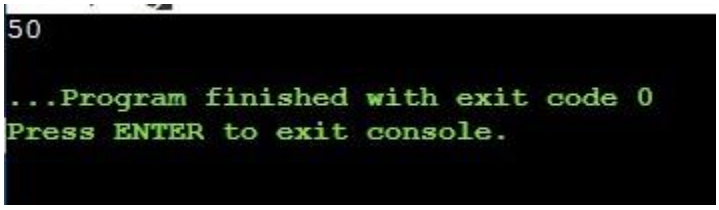
```
/*
 Abhimanyu 7098
 Program-19 : Friend in one class
 */
 #include<iostream>
using namespace std;
 class sample{ int a; int b;
public:
        void setvalue(){ a=25;
        b=40; } friend float
        mean(sample s);
 }; float mean(sample s){ return
        float(s.a + s.b)/2.0;
        }
int main(){ sample X; X.setvalue(); cout << "Mean
 value = " << mean(X) << endl;  return 0;
 }
```

Output:



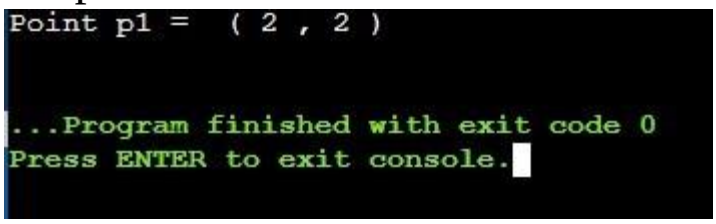
```
/*
 Abhimanyu 7098
 Program-19 : Use in Default Constructor
 */
#include<iostream> using
namespace std;
 class rect{ int length,breadth; public:
        rect(){ length=5;
              breadth=10;
        }; int rectangle(){ return
        (length*breadth);
        } }; int main(){ rect result; cout
  << result.rectangle(); return 0;
  }
```

Output:



```
/*
Abhimanyu 7098
Program-21 : Parameterized Constructor
*/
#include <iostream> using
namespace std; class
Point{ int x, y; public:
        Point(int a, int b){ x =
        a; y = b; } void
        display()
        { cout << " ( " << x << " , " << y << " ) " << endl;
        } };
int
main()
{
        Point p1(2, 2); cout
        << "Point p1 = ";
        p1.display(); return 0;
}
```

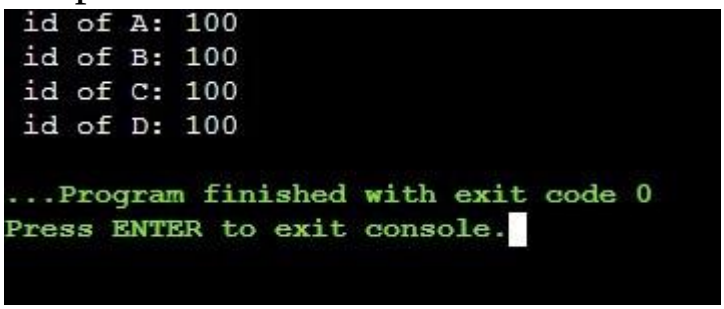
Output:



```
/*
Abhimanyu 7098
Program-22 : Copy Constructor
*/
#include<iostream>
using namespace std;
class code{ int id; public:
code(){} code(int a){
id=a; } code(code &x){ id
        = x.id; } void
    display(void){ cout
        << id;
    } }; int main(){
code A(100); code
B(A); code
    C=A; code D;
    D=A;

    cout << "\n id of A: ";
    A.display(); cout <<
    "\n id of B: ";
    B.display(); cout <<
    "\n id of C: ";
    C.display(); cout <<
    "\n id of D: ";
    D.display(); return 0;
}
```

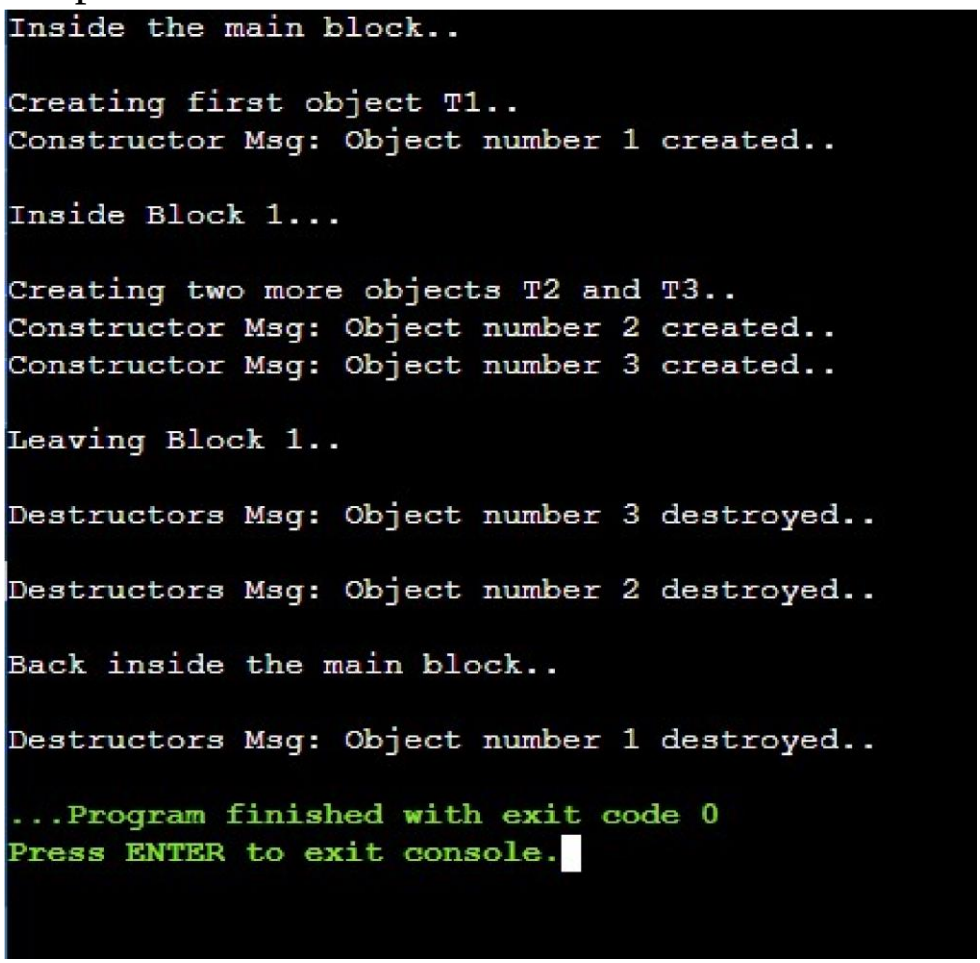
Output:



```
/*
Abhimanyu 7098
Program-23 : Destructor
 */
#include<iostream>
 using namespace std;

int count=0; class test{ public: test(){ count++; cout << "\nConstructor Msg:
Object number " << count << " created.. " ;
        }
        ~test(){ cout << "\n\nDestructors Msg: Object number " << count << "
              destroyed.."; count--;
        } }; int main(){ cout << "Inside the
main block.."; cout << "\n\nCreating first
object T1..";
test T1;{ cout << "\n\nInside Block 1..."; cout << "\n\nCreating two more
        objects T2 and T3.."; test T2,T3; cout << "\n\nLeaving Block 1..";
        } cout << "\n\nBack inside the main block.."; return
        0;
}
```

Output:

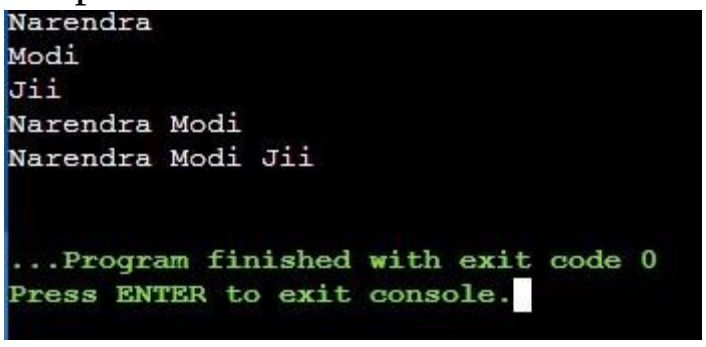


```
/*
 Abhimanyu 7098
 Program-24 : Constructor with dynamic operation
 */
 #include<iostream>
#include<string.h> using
namespace std;

class String{ char
        *name; int
        length; public:
        String(){ length=0; name=new
                char[length+1];
        }
        String(char *s){ length = strlen(s);
                name = new char[length+1];


                strcpy(name, s);
        } void display(void){ cout
        << name << endl;
        } void join(String &a,String
        &b);
}; void String :: join(String &a,String
&b){ length=a.length+b.length; delete
name; name = new char[length+1];
strcpy(name, a.name); strcat(name,
b.name);
}; int main(){ char
*first="Narendra ";
        String name1(first),name2("Modi "),name3("Jii"),s1,s2;
        s1.join(name1,name2); s2.join(s1,name3);
        name1.display(); name2.display(); name3.display();
        s1.display(); s2.display(); return 0;
}
```

Output:



```
/*
 Abhimanyu 7098
 Program-25 : Dynamic Object
  */
  #include<iostream>
 using namespace std;
 class rectangle{ int l,b; public: rectangle(){ cout << "Const with no Parameter\n";
        } void read(){ cout << "Enter length & breadth : \n";
        cin>>l>>b;
        } void area(){ cout << "Area of rectangle is
        " << l*b;
        }
        ~rectangle(){ cout << "\nDestruct
              invoked";
        } }; int main(){ rectangle *ptr;
  ptr = new rectangle; ptr -> read(); ptr
  -> area(); cout << "\nDestruct Obj";
  delete ptr;
        cout << "\nEnd of program"; return
        0;

  }
```

Output:

```
Const with no Parameter
Enter length & breadth :
10
10
Area of rectangle is 100
Destruct Obj
Destruct invoked
End of program

...Program finished with exit code 0
Press ENTER to exit console.
```

```
/*
 Abhimanyu 7098
 Program-26 : Operator overloading post and prefix increment
 */
  #include<iostream>
 using namespace std;

 class score{
        int val;
        public:
        score(){
                val=0;
        }
        score operator++(){                 //prefix overload operator function score temp;
                val=val+1;
                temp.val=val;
                return(temp);
        }
          score operator++(int){            //postfix overload operator function score temp;
                temp.val=val;
                val=val+1;
                return(temp);
        } int show(){
        return(val);
        }

 }; int main(){
 score s1,s2;
        cout << "\nInitial value of s1 object is " << s1.show(); cout << "\nInitial
        value of s2 object is " << s2.show(); s2 = ++s1; cout << "\ns1 = " <<
        s1.show(); cout <<"\ns2 after prefix operation = " << s2.show(); s2 = s1++;
        cout << "\ns1 = " << s1.show(); cout << "\ns2 after postfix operation = " <<
        s2.show(); return 0;
 }
```

Output: