# Lab 6

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**Question1:**

**Code:**

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

class BasicInfo{
   public:
      string emp_name, gender;
      int emp_ID;
      void setBasicInfo(){
         cout << "Enter employee name : ";
         cin >> emp_name;
         cout << "Enter employee i.d. : ";
         cin >> emp_ID;
         cout << "Enter employee gender : ";
         cin >> gender;
      }
      void getBasicInfo(){
         cout << "Employee name : ";
         cout << emp_name << endl;
         cout << "Employee i.d. : ";
         cout << emp_ID << endl;
         cout << "Employee gender : ";
         cout << gender << endl;
      }
};

class DeptInfo{
   public:
      string dep_name;
      int depID;
      void setDeptInfo(){
         cout << "Enter department name : ";
         cin >> dep_name;
         cout << "Enter department i.d : ";
         cin >> depID;
      }
      void getDeptInfo(){
         cout << "Department name : ";
         cout << dep_name << endl;
         cout << "Department i.d : ";
         cout << depID << endl;
      }
};

class Employee : public BasicInfo, public DeptInfo
{
   public:
      void getEmpInfo(){
         cout << "\n----------Employee Details----------\n";
         getBasicInfo();
         getDeptInfo();
         cout << "------------------------------------\n";
      }
};

int main(){
   Employee e1;
   e1.setBasicInfo();
   e1.setDeptInfo();
   e1.getEmpInfo();
   return 0;
}
```

**Input & Output:**

```
PS C:\Users\DELL\OneDrive\Desktop\Labs> cd "c:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 6\" ; if ($?) { g++ 1.cpp -o 1 } ; if ($?) { .\1 }
Enter employee name : Tony
Enter employee i.d. : 110
Enter employee gender : Male
Enter department name : C.S.E
Enter department i.d : 1

----------Employee Details----------
Employee name : Tony
Employee i.d. : 110
Employee gender : Male
Department name : C.S.E
Department i.d : 1
------------------------------------
PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 6>
```

**Question2:**

**Code:**

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

class A{
   public:
      A(){
         cout << "Class A is accessed.\n";
      }
};
class B : public A{
   public:
      B(){
         cout << "Class B is accessed\n";
      }
};
class C : public B{
   public:
      C(){
         cout << "Class C is accessed.\n";
      }
};

int main(){
   C c1;
   return 0;
}
```

**Input & Output:**

```
PS C:\Users\DELL\OneDrive\Desktop\Labs> cd "c:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 6\" ; if ($?) { g++ 2.cpp -o 2 } ; if ($?) { .\2 }
Class A is accessed.
Class B is accessed
Class C is accessed.
PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 6>
```

**Question3:**

**Code:**

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

class class_1{
   int a;
   public:
      class_1(){
         cout << "class_1 default constructor.\n\n";
      }
      class_1(int a){
         cout << "\nclass_1 is accessed.\n";
         cout << "class_1 parameterized constructor.\n\n";
      }
};

class class_2 : public class_1{
   int b;
   public:
      class_2(){
         cout << "class_2 default constructor.\n\n";
      }
      class_2(int b) : class_1(b){
         cout << "class_2 is accessed.\n";
         cout << "class_2 parameterized constructor.\n\n";
      }
};

int main(){
   class_2 d1(10);
   return 0;
}
```

**Input & Output:**

```
PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 6> cd "c:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 6\" ; if ($?) { g++ 3.cpp -o 3 } ; if ($?) { .\3 }

class_1 is accessed.
class_1 parameterized constructor.

class_2 is accessed.
class_2 parameterized constructor.

PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 6>
```

**Question4:**

**Code:**

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

class Vehicle{
   public:
      Vehicle(){
         cout << "This is a Vehicle\n";
      }
};

class Car : public Vehicle{
   public:
      Car(){
         cout << "This is a Car\n";
      }
};

class Bike : public Vehicle{
   public:
      Bike(){
         cout << "This is a Bike\n";
      }
};

int main(){
   int n;
   cout << "\nEnter number of tyres : ";
   cin >> n;
   cout << "-----------------Vehicle Details----------------\n";
   if(n == 2){
      Bike b1;
   }
   else if(n == 4){
      Car c1;
   }
   else{
      Vehicle v1;
   }
   cout << "------------------------------------------------\n";
   return 0;
}
```

**Input & Output:**

```
PS C:\Users\DELL\OneDrive\Desktop\Labs> cd "c:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 6\" ; if ($?) { g++ 4.cpp -o 4 } ; if ($?) { .\4 }

Enter number of tyres : 2
-----------------Vehicle Details----------------
This is a Vehicle
This is a Bike
------------------------------------------------
PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 6> cd "c:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 6\" ; if ($?) { g++ 4.cpp -o 4 } ; if ($?) { .\4 }

Enter number of tyres : 4
-----------------Vehicle Details----------------
This is a Vehicle
This is a Car
------------------------------------------------
PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 6> cd "c:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 6\" ; if ($?) { g++ 4.cpp -o 4 } ; if ($?) { .\4 }

Enter number of tyres : 5
-----------------Vehicle Details----------------
This is a Vehicle
------------------------------------------------
PS C:\Users\DELL\OneDrive\Desktop\Labs\OOPM LAB\LAB 6>
```