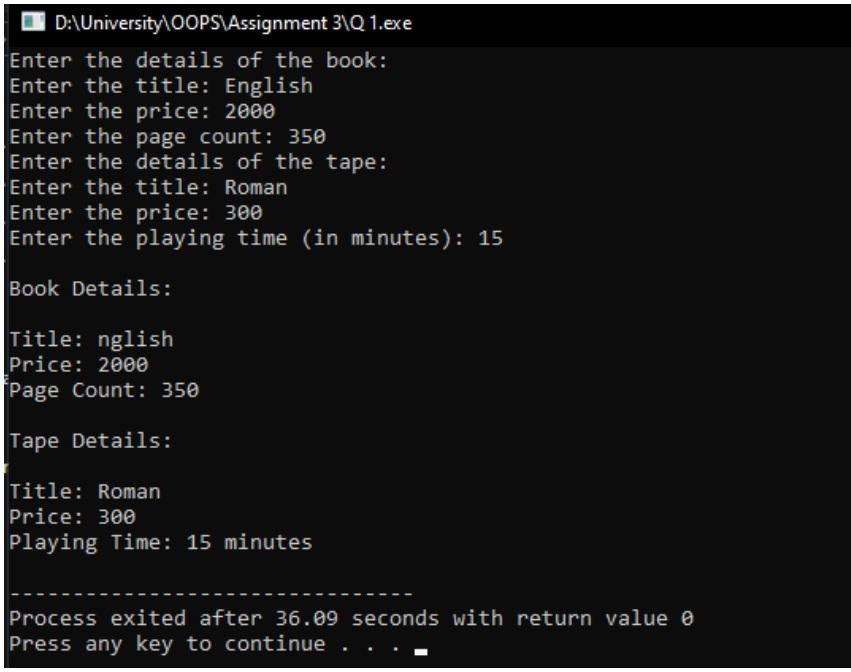
PROGRAM NO 1

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

class Publication {
protected:
   string title;
   float price;
public:
   void getData()
           {
      cout<<"Enter the title: ";
      cin.ignore();
      getline(cin, title);
      cout<<"Enter the price: ";
      cin>>price;
   }
   void putData() {
      cout<<"Title: "<<title<<endl;
      cout<<"Price: "<<price<<endl;
   }
};

class Book : public Publication {
private:
   int pageCount;
public:
```

```
    void getData() {
        Publication::getData();
        cout<<"Enter the page count: ";
        cin>>pageCount;
    }
    void putData() {
        Publication::putData();
        cout << "Page Count: " << pageCount <<
endl;
    }
};

class Tape:public Publication {
private:
    float playingTime;
public:
    void getData() {
        Publication::getData();
        cout<<"Enter the playing time (in minutes): ";
        cin>>playingTime;
    }
    void putData() {
        Publication::putData();
        cout << "Playing Time: "<< playingTime << " minutes" << endl;
    }
};

int main() {
    Book book;
```



```
    Tape tape;

    cout<<"Enter the details of the book:"<<endl;
    book.getData();

    cout<<"Enter the details of the tape:"<<endl;
    tape.getData();

    cout<< "\nBook Details:\n" << endl;
    book.putData();

    cout<<"\nTape Details:\n" << endl;
    tape.putData();
    return 0;
}
```

PROGRAM NO 2

```
#include<iostream>
using namespace std;
class Sales
{
    protected:
    float array[3];

    public:
    void getData()
    {
        int n=1;
```

```
    for(int i=0; i<3; i++)
    {
        cout<<"Enter Sales of Month "<<n<<": ";
        cin>>array[i];
        n++;
    }
  }
  void putData()
  {
    int n=1;
    for(int i=0; i<3; i++)
    {
        cout<<"Sales of Month "<<n<<":
$"<<array[i]<<endl;
        n++;
    }
  }
};
class Publication
{
  protected:
  string title;
  float price;

  public:
  void getData()
  {
    cout<<"Enter Title: ";
    cin>>title;
```

```
D:\University\OOPS\Assignment 3\2.exe
Enter Book Details
Enter Title: OOP
Enter Price: 4000
Enter Page Count: 1000
Enter Sales of Month 1: 20
Enter Sales of Month 2: 17
Enter Sales of Month 3: 9

Book Details
Title: OOP
Price: 4000
Page Count of Book: 1000
Sales of Month 1: RS20
Sales of Month 2: RS17
Sales of Month 3: RS9

Enter Tape Details
Enter Title: TAPE
Enter Price: 200
Enter Playing Time: 10
Enter Sales of Month 1: 20
Enter Sales of Month 2: 38
Enter Sales of Month 3: 13

Tape Details
Title: TAPE
Price: 200
Playing Time of Tape: 10 Min
Sales of Month 1: RS20
Sales of Month 2: RS38
Sales of Month 3: RS13

--------------------------------
Process exited after 33.64 seconds with return value 0
Press any key to continue . . .
```

```
        cout<<"Enter Price: ";
        cin>>price;
    }
    void putData()
    {
        cout<<"Title: "<<title<<endl;
        cout<<"Price: "<<price<<endl;
    }
};
class Book : public Publication, public Sales
{
    private:
    int pageCount;

    public:
    void getData()
    {
        Publication::getData();
        cout<<"Enter Page Count: ";
        cin>>pageCount;
        Sales::getData();
    }
    void putData()
    {
        Publication::putData();
        cout<<"Page Count of Book: "<<pageCount<<endl;
        Sales::putData();
    }
};
```

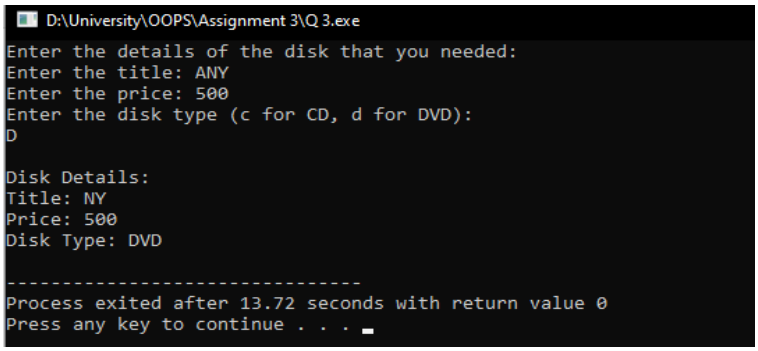
```
class Tape : public Publication, public Sales
{
   private:
   int playingTime;

   public:
   void getData()
   {
      Publication::getData();
      cout<<"Enter Playing Time: ";
      cin>>playingTime;
      Sales::getData();
   }
   void putData()
   {
      Publication::putData();
      cout<<"Playing Time of Tape: "<<playingTime<<" Min"<<endl;
      Sales::putData();
   }
};
int main()
{
   Book obj1;
   cout<<"Enter Book Details"<<endl;
   obj1.getData();
   cout<<"\n\nBook Details"<<endl;
   obj1.putData();

   Tape obj2;
```

```
    cout<<"\n\nEnter Tape Details"<<endl;
    obj2.getData();
    cout<<"\n\nTape Details"<<endl;
    obj2.putData();
    return 0;
}
```

PROGRAM NO 3

```
#include <iostream>
#include <string>
using namespace std;
enum DiskType { CD, DVD };

class Publication {
protected:
  string title;
  float price;
public:
  void getData() {
    cout<<"Enter the title: ";
    cin.ignore();
    getline(cin, title);
    cout<<"Enter the price: ";
    cin>>price;
  }
  void putData() {
    cout<<"Title: " << title << endl;
    cout<<"Price: " << price << endl;
  }
```

```
};
class Disk : public Publication {
private:
  DiskType diskType;
public:
  void getData() {
    Publication::getData();
    char choice;
    cout << "Enter the disk type (c for CD, d for DVD): ";
    cin >> choice;
    diskType = (choice == 'c') ? CD : DVD;
}
  void putData() {
    Publication::putData();
    cout << "Disk Type: " << ((diskType == CD) ? "CD" : "DVD") << endl;
  }
};
int main() {
  Disk disk;
  cout << "Enter the details of the disk that you needed:" << endl;
  disk.getData();
  cout << "\nDisk Details:" << endl;
  disk.putData();
  return 0;
}
```



PROGRAM NO 4

```
#include <iostream>
```

```
#include <string>
using namespace std;
enum Period {HOURLY, WEEKLY, MONTHLY};

class Employee {
protected:
   string name;
   int id;
public:
   void getData() {
      cout<<"Enter the name: ";
      cin.ignore();
      getline(cin, name);
      cout<<"Enter the ID: ";
      cin>>id;
   }
   void putData() {
      cout<<"Name: "<< name<<endl;
      cout<<"ID: "<< id <<endl;
   }
};

class Employee2 : public Employee {
private:
   double compensation;
   Period period;
public:
   void getData() {
      Employee::getData();
```

```
        cout<<"Enter the compensation: ";
        cin>>compensation;
        char choice;
        cout<<"Enter the period (h for hourly, w for weekly, m for monthly): ";
        cin>>choice;
        period = (choice == 'h') ? HOURLY : (choice == 'w') ? WEEKLY : MONTHLY;
    }
    void putData() {
        Employee::putData();
        cout<<"Compensation: " <<compensation<<endl;
        cout<<"Period: ";
        switch (period) {
            case HOURLY:
                cout << "Hourly" <<endl;
                break;
            case WEEKLY:
                cout << "Weekly" <<endl;
                break;
            case MONTHLY:
                cout << "Monthly" <<endl;
                break;
        }
    }
};

int main() {
    Employee2 employee;

    cout<<"Enter the details of the employee:" <<endl;
```

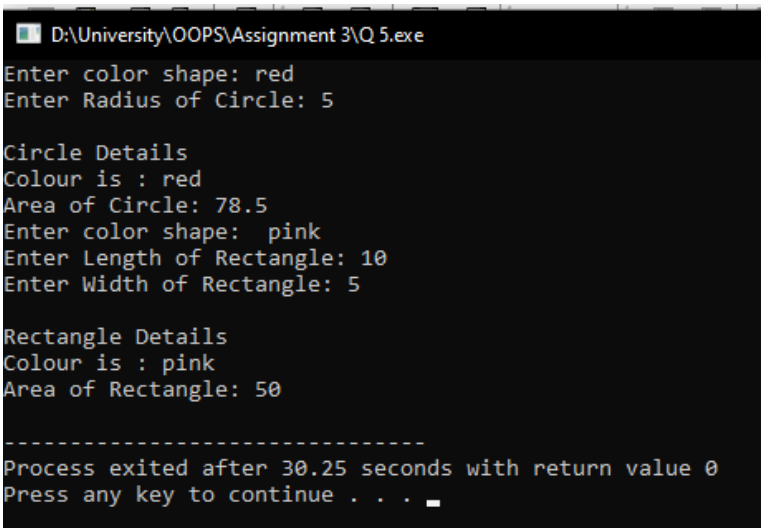
```
    employee.getData();

    cout<<"\nEmployee Details:" <<endl;
    employee.putData();

    return 0;
}
```

PROGRAM NO 5

```
#include<iostream>
using namespace std;
class Shape
{
    protected:
    string colour;

    public:
    Shape()
    {
        cout<<"Enter color shape: ";
        cin>>colour;
    }

    void printColour()
    {
        cout<<"Colour is : "<<colour<<endl;
```

```
    }
};
class Circle : public Shape
{
    private:
    double radius;
    double area;

    public:
    Circle()
    {
        cout<<"Enter Radius of Circle: ";
        cin>>radius;
    }

    void calculateArea()
    {
            //formula of radius
        area = 3.14 * radius * radius;
    }
    void printArea()
    {
        cout<<"Area of Circle: "<<area<<endl;
    }
};
class Rectangle : public Shape
{
    private:
    double length, width;
```

```
    double area;

    public:
    Rectangle()
    {
        cout<<"Enter Length of Rectangle: ";
        cin>>length;
        cout<<"Enter Width of Rectangle: ";
        cin>>width;
    }

    void calculateArea()
    {
            //formula of area
        area = length * width;
    }
    void printArea()
    {
        cout<<"Area of Rectangle: "<<area<<endl;
    }
};
int main()
{
    Circle circle1;
    circle1.calculateArea();

    cout<<"\nCircle Details"<<endl;
    circle1.printColour();
    circle1.printArea();
```



```
    Rectangle Rectangle2;
    Rectangle2.calculateArea();

    cout<<"\nRectangle Details"<<endl;
    Rectangle2.printColour();
    Rectangle2.printArea();
    return 0;
}
```

PROGRAM NO 6

```
#include<iostream>
using namespace std;
class Employee
{
    protected:
    string name;
    int id;
    string department;

    public:
    void getInfo()
    {
        cout<<"Enter the  Name of Employee : ";
        cin>>name;
        cout<<"Enter the Id of Employee : ";
        cin>>id;
        cout<<"Enter the of Department Employee : ";
        cin>>department;
```

```
    }
    void setInfo()
    {
        cout<<"The name of Employee is: "<<name<<endl;
        cout<<"The Id of Employee is: "<<id<<endl;
        cout<<"The Department of Employee is: "<<department<<endl;
    }
};
class SalariedEmployee : public Employee
{
    private:
    double annualSalary;
    double monthlySalary;

    public:
    void getInfo()
    {
        Employee::getInfo();
        cout<<"Enter Employee Annual Salary: ";
        cin>>annualSalary;
    }
    void calculate()
    {
        monthlySalary = annualSalary / 12;
    }
    void setInfo()
    {
        Employee::setInfo();
        cout<<"Annual Salary of employee is: "<<annualSalary<<endl;
```

```
        cout<<"Monthly Salary of employee is: "<<monthlySalary<<endl;
    }
};
class CommisionEmployee : public Employee
{
    private:
    double sales;
    double commissionRate;
    double totalSalary;

    public:
    void getInfo()
    {
        Employee::getInfo();
        cout<<"Enter Sales: ";
        cin>>sales;
        cout<<"Enter Commission Rate: ";
        cin>>commissionRate;
    }
    void calculate()
    {
        Employee::setInfo();
        totalSalary = sales * commissionRate;
    }
    void setInfo()
    {
        cout<<"Total Salary:
"<<totalSalary<<endl;
    }
```

```
D:\University\OOPS\Assignment 3\Untitled3.exe
Enter the  Name of Employee : Ahmad
Enter the Id of Employee : 123456
Enter the of Department Employee : AI
Enter Employee Annual Salary: 1000000

Salaried Employee Info
The name of Employee is: Ahmad
The Id of Employee is: 123456
The Department of Employee is: AI
Annual Salary of employee is: 1e+06
Monthly Salary of employee is: 83333.3
Enter the  Name of Employee : Abdullah
Enter the Id of Employee : 8906
Enter the of Department Employee : DPT
Enter Sales: 1000
Enter Commission Rate: 200
The name of Employee is: Abdullah
The Id of Employee is: 8906
The Department of Employee is: DPT
Commission Employee Info
Total Salary: 200000

--------------------------------
Process exited after 42.82 seconds with return value 0
Press any key to continue
```

```
};
int main()
{
   SalariedEmployee obj1;
   obj1.getInfo();
   obj1.calculate();
   cout<<"\nSalaried Employee Info"<<endl;
   obj1.setInfo();

   CommisionEmployee obj2;
   obj2.getInfo();
   obj2.calculate();
   cout<<"Commission Employee Info"<<endl;
   obj2.setInfo();
   return 0;
}
```