PROBLEMS

1. Create a class **calc** with following specifications:
    a. Data Members: num1, num2
    b. Member Functions
        i. input() to read input from user
        ii. sum() to calculate sum of that number
        iii. display() to show the value of sum
2. Create a class **rectangle** with following specifications:
    a. Data Members: length, breadth
    b. Member Functions
        i. setValues() to assign initial Values to length and breadth
        ii. showArea() to display area of rectangle
3. Create a class **circle** with following specifications:
    a. Data Members: radius
    b. Member Functions:
        i. setRadius() to assign value of radius
        ii. getArea() to calculate and return area
        iii. getCircumference() to calculate and return circumference

REPORT

1. Basic theory on class and object: definition and example
2. How to create a class and object?
3. How to access data members and functions of a class using object?
4. Analyze the following problems, determine its data members and functions, and create a class.
    - Calculate the simple interest and amount
    - Calculate the volume and surface area of a cylinder

SAMPLE PROBLEM

CALCULATE THE PRODUCT OF TWO NUMBERS, DEMONSTRATE THE CONCEPT OF CLASS AND OBJECT

```
# include<iostream>
using namespace std;
class calc
{
  int num1, num2;    // Data Members (Private)
  float product;
public:              // Member Functions (Public)
  void input()
  {
    cout<<"Enter First Number : ";
    cin>>num1;
    cout<<"Enter Second Number : ";
    cin>>num2;
  }
  void calcProduct()
  {
    product = num1*num2;
  }
  void showProduct()
  {
    cout<<"The product is "<<product;
  }
};
int main()
{
  calc ob;          //Object Creation
  ob.input();       //Calling Member Function
  ob.calcProduct();
  ob.showProduct();
}
```

```
# include<iostream>
using namespace std;
class calc
{
  int num1, num2;    // Data Members (Private)
  // Member Functions (Public)
public:
  void setValues(int a, int b)
  {
    num1 = a;
    num2 = b;
  }
  int getProduct()
  {
    return num1*num2;
  }
};
int main()
{
  int p;
  calc ob;          //Object Creation
  ob.setValues(3, 5);       //Calling Member Function
  p = ob.getProduct();
  cout<<"The Product is "<<p;
}
```