Practical No 1

Aim : Write A Program To Find Area Of Circle Using Obejct Oreinted Programming Such That The Class Circle Must Have Three Member Functions Namely : (read,compute,display).

```
#include <iostream>
using namespace std;
// Defining The Class
class Circle
{
public:
    // Attributes
    double radius, circumference, area;

    // Getting The User Variable
    void read()
    {
        cout << "Enter the radius of the circle: ";
        cin >> radius;
    }

    // Computing The Output
    void compute()
    {
        circumference = 2 * 3.14 * radius;
        area = 3.14 * radius * radius;
    }

    // Displaying The Output
    void display()
    {
        cout << "Circumference Of The Circle: " << circumference << endl;
        cout << "Area Of The Circle : " << area << endl;
    }
};
int main()
{
    // Creating An Object
    Circle c;
    // Assigning The Value
    c.read();
    // Computing The Answer
    c.compute();
    // Printing The Answer
    c.display();

    return 0;
}
```

```
Enter the radius of the circle: 45
Circumference Of The Circle: 282.6
Area Of The Circle : 6358.5
```

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Practical No 2

Aim : Program Based On Branching And Looping Statement Using Class.

A. Series

```
#include <iostream>
using namespace std;
class Sum
{
public:
   // Declaring Variable
   int num, sum = 0, squareSum = 0;
   void read()
   {
      cout << "Enter A Number : ";
      cin >> num;
   }
   // Taking User Input
   void calculate()
   {
      for (int i = 1; i <= num; i++)
      {
         squareSum += i * i;
      }
      for (int i = 1; i <= num; i++)
      {
         sum += i;
      }
   }
   // Displaying The Values
   void display()
   {
      cout << "Sum Of Number Till " << num << " Is : " << sum << endl;
      cout << "Sum Of Square Of Number Till " << num << " Is : " << squareSum << endl;
   }
};

int main()
{
   // Creating Object
   Sum sum;
   sum.read();
   sum.calculate();
   sum.display();
   return 0;
}
```

```
Enter A Number : 45
Sum Of Number Till 45 Is : 1035
Sum Of Square Of Number Till 45 Is : 31395
```

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B . Switch

```
#include <iostream>

using namespace std;

int main()
{
   int day = 1;
   cout << "Enter A Number In Between (1-7) To Get Day : ";
   cin >> day;

   while (day > 7 & day < 0)
   {
      cout << "Invalid Input Please Enter A Number In Between (1-7) To Get Day : " ;
      cin >> day;

   }

   switch (day)
   {
   case 1:
      cout << "Monday";
      break;
   case 2:
      cout << "Tuesday";
      break;
   case 3:
      cout << "Wednessday";
      break;
   case 4:
      cout << "Thursday";
      break;
   case 5:
      cout << "Friday";
      break;
   case 6:
      cout << "Saturday";
      break;
   case 7:
      cout << "Sunday";
      break;
   default:
      break;
   }
   return 0;
}
```

```
Enter A Number In Between (1-7) To Get Day : 5
Friday
```

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Practical No 3

Aim : Write A Program To Print 2x2 Matrices And Array String Function.

A . Matrix

```
#include <iostream>
using namespace std;
int main()
{
    int row = 3, col = 3;
    int matrix[row][col];

    // Input
    for (int i = 0; i < row; i++)
    {
        for (int j = 0; j < col; j++)
        {
            cout << "Enter Element At " << "a" << i + 1 << j + 1 << " : ";
            cin >> matrix[i][j];
        }
    }
    // Display
    for (int i = 0; i < row; i++)
    {
        for (int j = 0; j < col; j++)
        {
            cout << matrix[i][j] << " ";
        }
        cout << endl;
    }
    return 0;
}
```

```
Enter Element At a11 : 1
Enter Element At a12 : 2
Enter Element At a21 : 3
Enter Element At a22 : 4
1 2
3 4
```

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B . String Function

```
#include <iostream>
#include <stdio.h>

using namespace std;

int main()
{
   char name[100];

   cout << "Enter Your Name : ";
   gets(name);

   cout << "Your Name Is : " << name;

   return 0;
}
```

```
Enter Your Name : Ashif
Your Name Is : Ashif
```

```
#include <iostream>
#include <stdio.h>
using namespace std;
int main()
{
   char name[100];
   int size;
   cout << "Enter The Length Of The Name : ";
   cin >> size;
   // User Input
   cout << "Enter Name : ";

   for (int i = 0; i < size; i++)
   {
      cin >> name[i];
      if (!name[i])
      {
         break;
      }
   }
   cout << "Your Name Is : ";
   for (int i = 0; i < size; i++)
   {
      cout << name[i];
   }
   return 0;
}
```

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