

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 << "Wednesday";
            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
```

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
```