

PRACTICAL-2

DATE: _____

AIM:-

- i. Write a program to calculate the area of circle, rectangle and square using function overloading.
- ii. Write a program to demonstrate the use of default arguments in function overloading. To learn how to overload functions and operators in C++.
- iii. Write a program to demonstrate the use of returning a reference variable.

INPUT:-

i)

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

double area (double radius) {
    return 3.14 * radius * radius;
}

double area (double length, double width) {
    return length * width;
}

double area (int side) {
    return side * side;
}

int main() {
    double radius, length, width;
    int side;
    // Area of Circle
    cout << "Enter the radius of the circle : ";
    cin >> radius;
    cout << "Area of the circle : " << area (radius) << endl;
    // Area of Rectangle
    cout << "Enter the length and width of the rectangle : ";
    cin >> length >> width;
    cout << "Area of the rectangle : " << area (length, width) << endl;
    // Area of Square
    cout << "Enter the side of the square : ";
    cin >> side;
    cout << "Area of the square : " << area (side) << endl;
    return 0;
}
```

Output :-

```
Enter the radius of the circle : 4
Area of the circle : 50.2654
Enter the length and width of the rectangle : 1 2
Area of the rectangle : 2
Enter the Side of the square : 6
Area of the Square : 36
```

ii).

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

Void display (int a, int b, int c) {
    cout << "Values : " << a << " " << b << " " << c << endl ;
}

void display ( int a, int b = 10 ) {
    cout << "Values : " << a << " and " << b << endl ;
}

int main() {
    display(5);
    display(5,20);
    display(10,15,20);
    return 0;
}
```

Output :-

```
Values : 5 and 10
Values : 5 and 20
Values : 10 15 20
```

iii).

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

int& largest (int&a , int&b) {
    if (a>b)
        return a ;
    else
        return b ;
}

int main() {
    int x=10, y=20 ;
    int &large = largest (x,y);
    cout << "x = " << x << ", y = " << y << endl ;
    cout << "Largest value : " << large << endl ;
    large = 100 ;
    cout << "After modifying the largest value : " << endl ;
    cout << "x = " << x << ", y = " << y << endl ;
    cout << "Largest value now : " << large << endl ;
    return 0 ;
}
```

Output :-

x = 10, y = 20
Largest value : 20
After modifying the largest value :
x = 10, y = 100
Largest value now : 100