

LAB - 15

Q1. Wap swap two value by using template.

```
#include <iostream>
using namespace std;
template <class T>

void Swap(T &x, T &y){

    T temp;
    temp = x;
    x = y;
    y = temp;
}

int main()
{
    int x, y;
    cout << "Enter two numbers : ";
    cin >> x >> y;
    cout << "Before Swap: ";
    cout << "\nx value is : " << x;
    cout << "\ny value is : " << y;
    Swap(x, y);
    cout << "\n\nAfter Function Templates:\n";
    cout << "\nx value is : " << x;
    cout << "\ny value is : " << y;
    return 0;
}
```

```
Enter two numbers : 10 20
Before Swap:
x value is : 10
y value is : 20

After Function Templates:

x value is : 20
y value is : 10
```

Q2. Wap to add two no of same type by using template

```
#include <iostream>
using namespace std;
template <class t1>
void sum(t1 a, t1 b){

    cout << "\nSum = " << a + b << endl;
}

int main()
{
    int a, b;
    cout << "\nEnter two integer data: ";
    cin >> a >> b;
    sum(a, b);
    return 0;
}
```

```
Enter two integer data: 10 20

Sum = 30
```

Q3. Wap to add two different types of number by using template.

```
#include <iostream>
using namespace std;
template <class t1, class t2>
void sum(t1 a, t2 b)
{
    cout << "\nSum = " << a + b << endl;
}
```

```

}

int main()
{
    int a, b;
    float x, y;
    cout << "\nEnter integer data: ";
    cin >> a;
    cout << "\nEnter float data: ";
    cin >> x;
    sum(a, x);
    return 0;
}

```

```

Enter integer data: 10
Enter float data: 10.20
Sum = 20.2

```

Q4. Wap to create template class which will add two different types of no and display it.

```

#include <iostream>
using namespace std;
template <class T1, class T2 = int>
class Sum
{
    T1 x;
    T2 y;
public:
    void
    input()
    {
        cout << "\n Enter two numbers: ";
        cin >> x >> y;
    }
    void addition()
    {
        int z;
        z = x + y;
        cout << "\n Addition : " << z;
    }
}

int main()
{
    Sum<int, int> X;
    X.input();
    X.addition();
    return 0;
}

```

```

Enter two numbers: 10 20
Addition :30

```