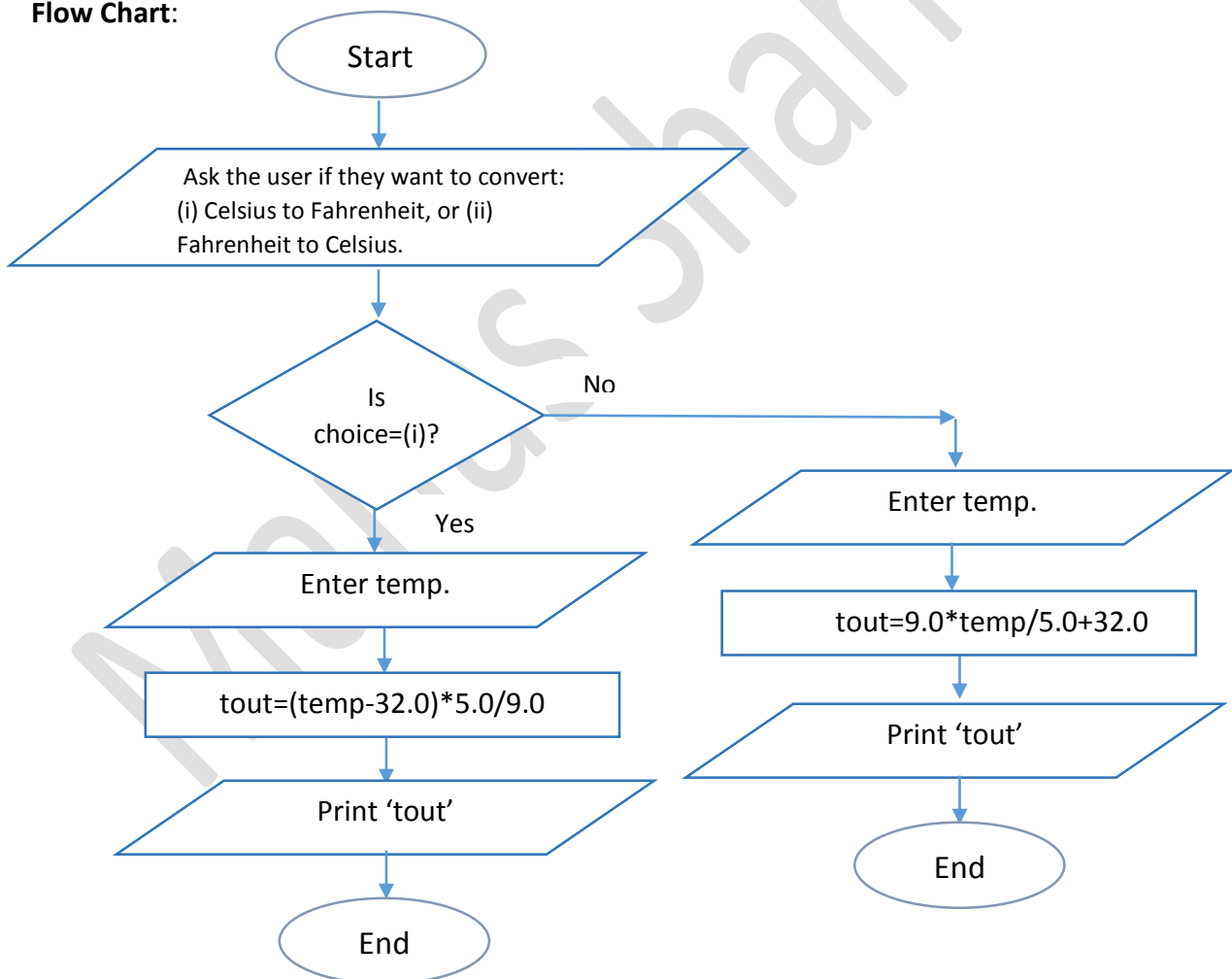


**Aim:** To convert Temperature in Celsius to Fahrenheit and vice versa.

**Algorithm:**

1. Ask the user if they want to convert:  
(i) Celsius to Fahrenheit, or (ii) Fahrenheit to Celsius.
2. If the choice is (i):  
Enter the temperature in Celsius, 'temp'.  
Set  $tout = (temp - 32.0) * 5.0 / 9.0$ .  
Print 'tout', the temperature in Fahrenheit.
3. If the choice is (ii):  
Enter the temperature in Fahrenheit, 'temp'.  
Set  $tout = 9.0 * temp / 5.0 + 32.0$ .  
Print 'tout', the temperature in Celsius.

**Flow Chart:**



## Program:

```
//Temperature scale conversion
#include<iostream>
using namespace std;
int main()
{
    double tin,tout;
    int choice;
    char cont;
    a:cout<<"What do you want to do?\n\n";          //Get the choice of the user
    cout<<"1.Fahrenheit to Celsius\n2.Celsius to Fahrenheit"<<endl;
    cout<<"\nEnter either '1' or '2'"<<endl;
    cin>>choice;
    if (choice==1)
    {
        cout<<"\nEnter the temperature in Fahrenheit"<<endl;    //Get the temp in Fahrenheit
        cin>>tin;
        tout=(tin-32.0)*5.0/9.0;          //Use the conversion Formula
        cout<<"\nThe temperature in Celsius is "<<tout<<endl;    //Print the answer
        cout<<"\nWant to continue?, Y or N"<<endl;    //Ask the user if they want to continue
        cin>>cont;
        if (cont=='Y' || cont=='y')
            goto a;
    }

    else if (choice==2)
    {
        cout<<"\nEnter the temperature in Celsius"<<endl;    //Get the temp in Celsius
        cin>>tin;
        tout=9*tin/5+32;          //Use the conversion Formula
        cout<<"The temperature in Fahrenheit is "<<tout<<endl;    //Print the answer
        cout<<"\nWant to continue?, Y or N"<<endl;
        cin>>cont;
        if (cont=='Y' || cont=='y')
            goto a;
    }

    else
    {
        cout<<"Enter a valid choice"<<endl;
        goto a;
    }
    return 0;
}
```

**Output:**

```
What do you want to do?
1.Fahrenheit to Celsius
2.Celsius to Fahrenheit

Enter either '1' or '2'
1

Enter the temperature in Fahrenheit
98.6

The temperature in Celsius is 37

Want to continue?, Y or N
N
```

```
What do you want to do?
1.Fahrenheit to Celsius
2.Celsius to Fahrenheit

Enter either '1' or '2'
3
Enter a valid choice
What do you want to do?

1.Fahrenheit to Celsius
2.Celsius to Fahrenheit

Enter either '1' or '2'
2

Enter the temperature in Celsius
-41
The temperature in Fahrenheit is -41.8

Want to continue?, Y or N

```