

Program Language: C#

```
using System;

namespace ConsoleApp1
{
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Please input fluctuation threshold:");
            var threshold = Math.Abs(ReadNumberFromConsole());
            Console.WriteLine("Please input freezing temperature:");
            var freezing = ReadNumberFromConsole();
            Console.WriteLine("Please input boiling temperature:");
            var boiling = ReadNumberFromConsole();

            // conflict
            if (Math.Abs(boiling - freezing) < threshold)
            {
                Console.WriteLine("Error! a conflict occurred");
                return;
            }

            TemperatureStatus? temperatureStatus = null;

            // Continuously read the value from console
            while (true)
            {
                Console.WriteLine("Please input current temperature:");

                var curTemperature = ReadNumberFromConsole();

                // init temperatureStatus by first input value.
                if (temperatureStatus == null)
                {
                    if (curTemperature <= freezing)
                    {
                        temperatureStatus = TemperatureStatus.Freezing;
                    }
                    else if (curTemperature >= freezing && curTemperature < boiling)
                    {
                        temperatureStatus = TemperatureStatus.Unfreezing;
                    }
                    else if (curTemperature > boiling)
                    {
                        temperatureStatus = TemperatureStatus.Boiling;
                    }
                }

                if (temperatureStatus <= TemperatureStatus.Freezing && curTemperature >
                    freezing + threshold)
                {
                    Console.WriteLine("Alert: Unfreezing!");
                    temperatureStatus = TemperatureStatus.Unfreezing;
                }
                else if (temperatureStatus < TemperatureStatus.Boiling && curTemperature >
                    boiling + threshold)
                {
                    Console.WriteLine("Alert: Boiling!");
                    temperatureStatus = TemperatureStatus.Boiling;
                }
                else if (temperatureStatus > TemperatureStatus.Freezing && curTemperature <=
                    freezing)
                {

```

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        Console.WriteLine("Alert: Freezing!");
        temperatureStatus = TemperatureStatus.Freezing;
    }
    else if (temperatureStatus >= TemperatureStatus.Boiling && curTemperature <=
boiling)
    {
        Console.WriteLine("Alert: Unboiling!");
        temperatureStatus = TemperatureStatus.Unfreezing;
    }
}

public enum TemperatureStatus
{
    Freezing = 0,
    Unfreezing = 1,
    Boiling = 2
}

private static float ReadNumberFromConsole()
{
    float number = 0;

    while (true)
    {
        if (!float.TryParse(Console.ReadLine(), out number))
        {
            Console.WriteLine("Please input a number !");

            continue;
        }

        break;
    }

    return number;
}
}

```