Design and implement a console application in any program language that adds alerts for temperature values from console input. The application should,

* On startup, get the user input of the freezing threshold, the boiling threshold and a fluctuation value.
* Alerts are generated when a specific threshold has been reached or exceeded.
* Alerts should not be repeatedly triggered if the temperature is fluctuating around the thresholds within the range of fluctuation value.
* Alerts are defined with directions. Alert “freezing” is triggered if the previous temperature was above freezing threshold, and alert “unfreezing” is triggered if the previous temperature was below (freezing threshold + fluctuation value).
* Similar for "boiling" and "unboiling". Alert “boiling” is triggered if the previous temperature was below boiling threshold, and alert “unboiling” is triggered if the previous temperature was above (boiling threshold - fluctuation value).

For example, considering the freezing threshold is set to 0, the boiling threshold is set to 100, and fluctuation value is set to 0.5,

Sample 1:

With the following temperature inputs,

    4.0 1.0 0.5 0.0 -0.5 0.0 0.5 0.0 -2.0 0.0 0.5 0.6 2.0

The output will be

    4.0 1.0 0.5 0.0 freezing -0.5 0.0 0.5 0.0 -2.0 0.0 0.5 0.6 unfreezing 2.0

Sample 2:

With the following temperature inputs,

    5.0 -0.5 0.5 -0.2 100 101

The output will be

    5.0 -0.5 freezing 0.5 -0.2 100 unfreezing boiling 101

Sample 3

With the following temperature inputs,

    0.0 0.3 0.5 0.4 0.7

The output will be

    0.0 freezing 0.3 0.5 0.4 0.7 unfreezing