2024-09-19

# Solution

## Simplest Solution

A possible solution is as follows:

﻿using System;  
class TempStats  
{  
 public string Description { get; set; }  
 private double[] temp;  
 public double[] Temp  
 {  
 set  
 {  
 bool sortedSoFar = true;  
 int index = 0;  
  
 while (index + 1 < value.Length && sortedSoFar)  
 {  
 if (value[index] > value[index + 1]) sortedSoFar = false;  
 index++;  
 }  
 if (!sortedSoFar)  
 {  
 throw new ArgumentException("Your data is not sorted.");  
 }  
 foreach (double i in value) {  
 if (i < -128.6)  
 {  
 throw new ArgumentOutOfRangeException("That is colder than the coldest ever recorded on Earth!");  
 // https://en.wikipedia.org/wiki/Lowest\_temperature\_recorded\_on\_Earth  
 }  
 else if (i > 134.1)  
 {  
 throw new ArgumentOutOfRangeException("That is hotter than the hottest ever recorded on Earth!");  
 // https://en.wikipedia.org/wiki/Highest\_temperature\_recorded\_on\_Earth  
 }  
 }  
 temp = value;  
 }  
 }  
  
 public TempStats(double[] tempP, string desc)  
 {  
 Temp = tempP;  
 Description = desc;  
 }  
 public double Average  
 {  
 get  
 {  
 double acc = 0;  
 foreach (double i in temp)  
 {  
 acc += i;  
 }  
 return acc / temp.Length;  
 }  
 }  
  
  
 public double Median {  
 get  
 {  
 if(temp.Length %2 != 0)  
 {  
 return temp[(temp.Length-1) / 2];  
 }  
 else  
 {  
 return (temp[(temp.Length-1) / 2] + temp[temp.Length / 2]) / 2;  
 }  
 }  
 }  
}

You can [download it here](https:/princomp.github.io/code/projects/TempStats.zip)