

I have now shifted my focus to first failed area whilst running my enhanced code again with ChatGPT data. Need to remember there were no issues before enhancing it across the documentation...

54.3f	54.2f	54.1f	54.0f	53.9f	54.0f	54.1f	54.2f	54.3f	11.5f
D	D	D	D	D					S
				A	A	A	A	A	

53.9->54.0
53.9->54.3

[75.9, 54.0->54.1, 54.1->53.6, 11.5]

I focused on this area of code since the chatGPT output with latest code (with all fixes) rendered this:

```

177 //if nums[k+1] is deflecting opposite direction.... in which case activate this loop
178
179 //this logic needs revising
180 //it stores 53.9->54.0 when it performs the check 53.9 with 54.0 (this is ok)
181 //when it performs 54.3->11.5..., it writes stored, it writes 53.9->54.3 and it writes the standalone
182 //so we need to check that if potentialFurtherAscendingBeyondThisStart==start
183 //if (Math.abs(nums[k] - (nums[k+1] + difference)) < epsilon)
184 //this is checking that in stored range it is ascending
185 //we can discard stored value and perform potentialFurtherAscendingBeyondThisStart -> end
186 //54.3f, 54.2f, 54.1f, 54.0f, 53.9f, 54.0f, 54.1f, 54.2f, 54.3f, 11.5f
187
188 //in principle, I would need to investigate if
189 //54.0f, 54.1f, 54.0f, 53.9f, 53.8f, 53.7f, 53.6f
190 //we know in storage would be (54.0f->54.1f) and then it would have 54.1->53.6
191 //we can see the stored is in the same range....
192 //I would have to create this scenario to see if it causes issue on the original code
193 //flipping the scenario... (no issues);
194 //75.9f, 75.9f, 54.0f, 54.1f, 54.0f, 53.9f, 53.8f, 53.7f, 53.6f, 11.5f

```

```

200 //this is guaranteed to break out of ascending sequence
201 if (!potentialFurtherAscendingBeyondThisStart.equals("") && !(potentialFurtherAscendingBeyondThisEnd.equals(""))
202 && nums[k+1]<=Float.valueOf(potentialFurtherAscendingBeyondThisStart))
203 {
204     //now if the value in potentialFurtherAscendingBeyondThisStart is same as start...
205     //we do not process this
206     System.out.println("XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX");
207     System.out.println(potentialFurtherAscendingBeyondThisStart);
208     System.out.println(start);
209
210     if (potentialFurtherAscendingBeyondThisStart.equals(start))
211     {
212         System.out.println("Stored value also ascending and overlap, not storing");
213         System.out.println("NO storage required");
214         System.out.println("XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX");
215     }
216     else
217     {
218         System.out.println("YYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY");
219         System.out.println("using stored start");
220         sm.add(potentialFurtherAscendingBeyondThisStart+"->"+potentialFurtherAscendingBeyondThisEnd);
221         System.out.println("19731Writing range: " + potentialFurtherAscendingBeyondThisStart+"->"+potentialFurtherAscendingBeyondThisEnd);
222         potentialFurtherAscendingBeyondThisEnd="";
223         potentialFurtherAscendingBeyondThisStart="";
224         System.out.println("!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!CURRENT LIST: " + sm);
225     }
226 }

```

75.9f, 75.9f, 54.3f, 54.2f, 54.1f, 54.0f, 53.9f, 54.0f, 54.1f, 54.2f, 54.3f, 11.5f

[75.9, 54.3->53.9, 53.9->54.0, 53.9->54.3, 11.5]

Previously, error here

[75.9, 54.3->53.9, 53.9->54.3, 11.5]

NOW FIXED, IT HAS DROPPED BECAUSE WITHIN THE SUMMARY RANGE

I have now executed code again against ChatGPT data and all issues have disappeared. I will run through all my test cases again in my documentation..