Exercise for Candidates for Embedded Software Test Engineer – Airborne Software

Instructions:

1. Given the requirement and using your definition of what a “good” requirement is, suggest improvements to the requirement. Document the update requirement statement in the space provided.
2. Using your improved requirement, specify the test cases you would develop to fully test the software meets the requirement. Identify whether the test cases are normal range or robustness test cases. Explain why you chose the inputs. Add rows as needed.
3. Answer the question in the space provided.

Requirement:

**If the Engine Output Temperature is between 580 and 600 degrees C, then the software shall annunciate an ENGINE HOT caution.**

Improved Requirement:

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Test Cases:

| Inputs | Expected  Outputs | Normal Range/  Robustness | Explanation |
| --- | --- | --- | --- |
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Question:

If the software is supposed to detect the input value with a tolerance, for example, “580 to 600 +/- 1 degrees C”, what is the expected output of the software at the following values?  
  
578 degrees C: **caution / no caution / either**  
  
579 degrees C: **caution / no caution / either**  
  
580 degrees C: **caution / no caution / either**  
  
581 degrees C: **caution / no caution / either**  
  
582 degrees C: **caution / no caution / either**  
  
598 degrees C: **caution / no caution / either**  
  
599 degrees C: **caution / no caution / either**  
  
600 degrees C: **caution / no caution / either**  
  
601 degrees C: **caution / no caution / either**  
  
602 degrees C: **caution / no caution / either**