Topic: Requirements Verification

Problem: Using your list of requirements from exercise 12 and what you learned in these verification lessons, identify the most appropriate verification method your test team should use to verify each of your requirements.

Pointers/Tips:

- You can use the same table (if you created one), adding a "verification method" column.
- You can abbreviate the method: I for Inspect, T for Test, A for Analysis, and D for Demonstration.
- Most engineers and subject matter experts like to default to "Test" as the method used. The problem with this is they are not using systems thinking. Test is by far the most time consuming and expensive of the test methods because it requires a staff of engineers, special equipment, and heavy modifications to dedicated test articles. As systems thinkers, we need to try to save the organization time and money by choosing the most appropriate method. In the end, we are trying to give the organization a return of VALUE in developing the system. If the test program exceeds the budget, and the SMEs are unwilling to compromise to other test methods, then in the end you have a great idea but no tangible product to give to the world – and no return on investment because the project will be cancelled by your executives. Systems thinking is very important!
  - Ironically, I have chosen Test for most of the examples below, mostly because they are environmental in nature.
- I have assigned Verification methods to my small set of requirements from exercise 12 (in parenthesis):
  - REQ.5.1 The ATM shall be available for use 30 days over a 31 day period. **(Demo)**
    - REQ.5.1.1 The **ATM** shall possess and **Inherent_Availability** (A_i) of 96.7% (T) 98.3% (O) over 31 continuous days of **Normal_Operation**. **(Analysis)**
      - REQ.5.1.1.1 The ATM shall possess a **Mean_Time_Between_Failure** (MTBF) of 325 hours (T) 558 hours (O) over 31 continuous days of **Normal_Operation**. **(Test)**
      - REQ.5.1.1.2 The ATM shall possess a **Mean_Time_To_Repair** (MTTR) of 11 hours (T) 9.5 hours (O) over 31 continuous days of **Normal_Operation**. **(Test)**
  - REQ.12.1 The ATM shall **operate** in **Weather_Conditions** experienced in the Continental United States (CONUS). **(Analysis)**
    - REQ.12.1.1 The ATM shall **operate** in ≥8 (T) ≥15 (O) cm/hour **Rainfall**. **(Test)**
    - REQ.12.1.2 The ATM shall **operate** in ≥15 (T) ≥20 (O) cm/hour **Snowfall**. **(Test)**
    - REQ.12.1.3 The ATM shall **provide service** in Cat I (T) Cat II (O) **Sandstorms**. **(Test)**
    - REQ.12.1.4 The ATM shall **provide service** in Cat I (T) Cat II (O) **Winds**. **(Test)**
    - REQ.12.1.5 The ATM shall **survive** in Cat III (T) Cat IV (O) **Sandstorms**. **(Test)**
    - REQ.12.1.6 The ATM shall **survive** in Cat III (T) Cat IV (O) **Winds**. **(Test)**
    - REQ.12.1.7 The ATM shall **operate** in ≥43°C (T) ≥60°C (O) **Temperatures**. **(Test)**
    - REQ.12.1.8 The ATM shall **operate** in ≤-17°C (T) ≤-34°C (O) **Temperatures**. **(Test)**
    - REQ.12.1.9 The ATM shall **operate** in ≥75% (T) 100% (O) **Humidity**. **(Test)**
    - REQ.12.1.10 The ATM shall **operate** in ≤25% (T) 0% (O) **Humidity**. **(Test)**
- Submit to support@learnse.com if you'd like me to check it and provide feedback.

