**Problem Statement:** Requirement is to generate the desired sequence of test cases automatically.

Problem4 deals with the Sensor validity logics. Some validity logics are spanned over multiple runs. In modelling, all the input parameters are given values non-deterministically. Since input data is assigned non-deterministically, each parameter is assigned some value in each run. Suppose, if the intention is to test for a particular values of inputs and vary the inputs as desired in consecutive runs, how to generate required sequence of test cases automatically. For each input test vector, it is also required to check the expected results with observed results.

**Problem Illustration:**

For example, the following table describes the sequence of tests need to be generated.

In the given scenario, only two failure conditions are considered, Packet Failure & Data Absolute limit failure. For each failure required input parameter values are defined for each run. During this sequence of test cases, all the parameters/variables in the code (data parameters, variables, flags and bits of status words) should be intact and should not be reset back to default values.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Failure conditions** | | **Test case inputs for the failure condition “Packet fail”** | | | | **Test case input for failure condition “Absolute Limit fail”** |
| **S.No** | **Packet Fail** | **Absolute Limit** | **Time out** | **Header** | **Checksum** | **Data Valid** | **Sens1Count** |
| 1. | OK | OK | 0 | 1 | 1 | 1 | < |
| 2. | OK | OK | 0 | 1 | 1 | 1 | < |
| 3. | NOT OK | --- | Any of them can be inverted | | | | All values |
| 4. | NOT OK | --- | Any of them can be inverted | | | | All values |
| 5. | NOT OK | --- | Any of them can be inverted | | | | All values |
| 6. | OK | NOT OK | 0 | 1 | 1 | 1 | >= |
| 7. | OK | NOT OK | 0 | 1 | 1 | 1 | >= |
| 8. | OK | NOTOK | 0 | 1 | 1 | 1 | >= |
| 9. | OK | NOTOK | 0 | 1 | 1 | 1 | >= |
| 10. | NOT OK | --- | Any of them can be inverted | | | | All values |
| 11. | OK | NOTOK | 0 | 1 | 1 | 1 | >= |