**6. Design, develop, code and run the program in any suitable language to implement the NextDate function. Analyze it from the perspective of equivalence class value testing, derive different test cases, execute these test cases and discuss the test results.**

**Refer Program 3**

|  |
| --- |
| **Test Case Name : Equivalence class test cases for Next date** |
|  |
| **Test data :** Enter the three integer values representing day, month, year |
| **Pre-condition :** Month: 1 to 12 , Day: 1 to 31 and YEAR: 1812 to 2012 |
| **Valid Cases** |
| M1 = { month : 1 ≤ month ≤ 12 } |
| D1 = { day : 1 ≤ day ≤ 31 } |
| Y1 = { year : 1812 ≤ year ≤ 2012 } |
| **Invalid Cases** |
| M2 = {month : month < 1} |
| M3 = {month : month > 12} |
| D2 = {day : day < 1} |
| D3 = {day : day > 31} |
| Y2 = {year : year < 1812} |
| Y3 = {year : year > 2012} |

**Weak Normal and Strong Normal Equivalence Class Test Cases**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TC Id** | **Test Case Description** | **Input Data** | | | | **Expected Output** | | | | | **Actual Output** | | | **Status** |
| **Month** | **Day** | **Year** | | **Month** | | | **Day** | **Year** | **Month** | **Day** | **Year** |
| WN1, SN1 | Enter the M1, D1 and Y1 cases | 6 | 15 | 1912 | | 6 | | | 16 | 1912 | 6 | 16 | 1912 | Test Pass |
| **Weak Robust Equivalence Class Test Cases** | | | | | | | | | | | | | | |
| WR1 | Enter the M2, D1 and Y1 cases | -1 | 15 | | 1912 | | | The value of month not in the range | | | The value of month not in the range | | | Test Pass |
| WR2 | Enter the M3, D1 and Y1 cases | 13 | 15 | | 1912 | | | The value of month not in the range | | | The value of month not in the range | | | Test Pass |
| WR3 | Enter the M1, D2 and Y1 cases | 6 | -1 | | 1912 | | | The value of day not in the range | | | The value of day not in the range | | | Test Pass |
| WR4 | Enter the M1, D3 and Y1 cases | 6 | 32 | | 1912 | | | The value of day not in the range | | | The value of day not in the range | | | Test Pass |
| WR5 | Enter the M1, D1 and Y2 cases | 6 | 15 | | 1811 | | | The value of year not in the range | | | The value of year not in the range | | | Test Pass |
| WR6 | Enter the M1, D1 and Y3 cases | 6 | 15 | | 2013 | | | The value of year not in the range | | | The value of year not in the range | | | Test Pass |
| **Strong Robust Equivalence Class Test Cases** | | | | | | | | | | | | | | |
| SR1 | Enter the M2 , D1 and Y1 cases | -1 | 15 | 1912 | | | The value of month not in the range | | | | The value of month not in the range | | | Test Pass |
| SR2 | Enter the M3 , D1 and Y1 cases | 13 | 15 | 1912 | | | Test Pass |
| SR3 | Enter the M1, D2 and Y1 cases | 6 | -1 | 1912 | | | The value of day not in the range | | | | The value of day not in the range | | | Test Pass |
| SR4 | Enter the M1, D3 and Y1 cases | 6 | 32 | 1912 | | | Test Pass |
| SR5 | Enter the M1, D1 and Y2 cases | 6 | 15 | 1811 | | | The value of year not in the range | | | | The value of year not in the range | | | Test Pass |
| SR6 | Enter the M1, D1 and Y3 cases | 6 | 15 | 2013 | | | Test Pass |
| SR7 | Enter the M2 , D2 and Y1 cases | -1 | -1 | 1912 | | | The value of month not in the range  The value of day not in the range | | | | The value of month not in the range  The value of day not in the range | | | Test Pass |
| SR8 | Enter the M3 , D3 and Y1 cases | 13 | 32 | 1912 | | | Test Pass |
| SR9 | Enter the M1, D2 and Y2 cases | 6 | -1 | 1811 | | | The value of day not in the range  The value of year not in the range | | | | The value of day not in the range  The value of year not in the range | | | Test Pass |
| SR10 | Enter the M1, D3 and Y3 cases | 6 | 32 | 2013 | | | Test Pass |
| SR11 | Enter the M2, D1 and Y2 cases | -1 | 15 | 1811 | | | The value of month not in the range  The value of year not in the range | | | | The value of month not in the range  The value of year not in the range | | | Test Pass |
| SR12 | Enter the M3, D1 and Y3 cases | 13 | 15 | 2013 | | | Test Pass |
| SR13 | Enter the M2, D2 and Y2 cases | -1 | -1 | 1811 | | | The value of month not in the range  The value of day not in the range  The value of year not in the range | | | | The value of month not in the range  The value of day not in the range  The value of year not in the range | | | Test Pass |
| SR14 | Enter the M3, D3 and Y3 cases | 13 | 32 | 2013 | | | Test Pass |