

**Q1.** Consider a program for determining the previous date. Its input is triple of day, month and year with the following ranges  $1 \leq \text{month} \leq 12$ ,  $1 \leq \text{day} \leq 31$ ,  $1900 \leq \text{year} \leq 2015$ . The possible output dates would be previous date or invalid date. Design the equivalence class test cases.

Write a set of test cases (i.e., test suite) – specific set of data – to properly test the programs. Your test suite should include both correct and incorrect inputs.

1. Enlist which set of test cases have been identified using Equivalence Partitioning and Boundary Value Analysis separately.

**Solution:**

2. Modify your programs such that it runs on eclipse IDE, and then execute your test suites on the program. While executing your input data in a program, check whether the identified expected outcome (mentioned by you) is correct or not.

**Solution:**

1) EC test classes:

- Days:
  - D-1: { day | day < 1 }
  - D-2: { day | day > 31 }
  - D-3: { day | day == 31 }
  - D-4: { day | day == 30 }
  - D-5: { day | day == 29 }
  - D-6: { day |  $1 \leq \text{day} \leq 28$  }
- Month:
  - M-7: { month | month number is <1 }
  - M-8: { month | month number is >12 }
  - M-9: { month | month with 31 days[1,3,5,7,8,10,12] }
  - M-10: { month | month with 30 days[4,6,9,11] }
  - M-11: { month | month of feb }
- Year:
  - Y-12: { years | Leap years in the range  $1900 \leq \text{year} \leq 2015$  }
  - Y-13: { years | Non-Leap years in the range  $1900 \leq \text{year} \leq 2015$  }
  - Y-14: { years | years > 2015 }
  - Y-15: { years | years < 1900 }

Equivalence class test cases and corresponding output

index	Days class	Months class	Year class	Output
1	D-1	ANY	ANY	Invalid
2	D-2	ANY	ANY	Invalid
3	ANY	M-7	ANY	Invalid
4	ANY	M-8	ANY	Invalid
5	ANY	ANY	Y-14	Invalid
6	ANY	ANY	Y-15	Invalid
7	D-3	M-9	Y-12/Y-13	Previous Date
8	D-3	M-10/M-11	Y-12/Y-13	Invalid
9	D-4	M-9/M-10	Y-12/Y-13	Previous Date
10	D-4	M-11	Y-12/Y-13	Invalid
11	D-5	M-9/M-10	Y-12/Y-13	Previous Date
12	D-5	M-11	Y-13	Invalid
13	D-5	M-11	Y-12	Previous Date
14	D-6	M-9/M-10/M-11	Y-12/Y-13	Previous Date