

Group 11

Specification-based Test Case Generation Lab 9

Question 1:

Input constraints:

Month: $1 \leq \text{month} \leq 12$,

Day: $1 \leq \text{day} \leq 31$,

Year: $1900 \leq \text{year} \leq 2015$

Equivalence classes:

M1: $\text{month} < 1$ (invalid class)

M2: $\text{month} > 12$ (invalid class)

M3: Month with 30 Days(April, Jun, Sept, Nov)

M4: Month with 31 Days(Jan, Mar, May, Jul, Aug, Oct, Dec)

M5: Month with 28/29 Days(Feb)

D1: $1 \leq \text{day} \leq 28$ (valid class)

D2: $\text{day} < 1$ (invalid class)

D3: $\text{day} > 31$ (invalid class)

D4: $\text{day} = 29$

D5: $\text{day} = 30$

D6: $\text{day} = 31$

Y1: Leap Year

Y2: Non-Leap year

Y3: $\text{year} < 1900$ (invalid class)

Y4: $\text{year} > 2015$ (invalid class)

Test case table:

Equivalence Class	Day	Month	Year	Output
M1	Any	0	Any	Invalid
M2	Any	13	Any	Invalid
M3	31	06	2010	Invalid
M3	25	06	2010	24-06-2010
M4	32	01	2001	Invalid
M4	31	01	2001	30-01-2001
M5	30	02	Any	Invalid
M5	28	02	2001	27-02-2001
D1	03	06	2014	02-06-2014
D2	0	Any	Any	Invalid
D3	32	Any	Any	Invalid
D4	29	02	2000	28-02-2000
D4	29	02	1999	Invalid
D5	30	12	1999	29-12-1999
D5	30	02	Any	Invalid
D6	31	07	2005	30-07-2005
D6	31	02	Any	Invalid
Y1	15	09	2000	14-09-2000
Y1	30	02	2000	Invalid
Y2	16	07	2001	15-07-2001
Y2	29	02	2001	Invalid
Y3	Any	Any	1899	Invalid
Y4	Any	Any	2017	Invalid

Boundary Value analysis:

Boundary Test Case ID	Day	Month	Year	Output
1	0	Any	Any	Invalid
2	1	12	2001	30-11-2001
3	15	5	2001	14-5-2001
4	31	12	2001	30-12-2001
5	32	Any	Any	Invalid
6	Any	0	Any	Invalid
7	24	1	2001	23-1-2001
8	24	6	2001	23-6-2001
9	4	12	2004	3-12-2004
10	Any	13	Any	Invalid
11	Any	Any	1899	Invalid
12	15	04	1900	14-04-1900
13	18	07	2002	17-07-2002
14	18	06	2015	17-06-2015
15	Any	Any	2016	Invalid

Question 2:

Input constraints:

Five digit ID number : $00000 \leq ID \leq 99999$

Quantity to be ordered : $0 \leq qnt \leq 99$

$1 \leq qnt \leq 99$ (order placed)

$Qnt = 0$ (order canceled)

Output constraints:

Cart total ≤ 999.99 (Valid)

Cart total > 999.99 or cart total < 0 (Invalid)

Equivalence classes:

I1: $00000 \leq ID \leq 99999$ - 5 digit ID (valid class)

I2: $ID > 99999$ - 6 or more digit ID (invalid class)

I3: $ID < 0$ - 4 or less digit ID (invalid class)

Q1: $1 \leq qnt \leq 99$ (valid class)

Q2: $qnt = 0$

Q3: $qnt > 99$ (invalid class)

Q4: $qnt < 0$ (invalid class)

Test Case Table:

Equivalence Class	ID	Quantity	Output
I1, Q1	12345	50	Valid (CT<=999.99)
I1, Q1	12345	75	Invalid (CT>999.99)
I1, Q2	12345	0	0
I1, Q3	12345	100	Invalid
I1, Q4	12345	-1	Invalid
I2	1234567	Any	Invalid
I3	500	Any	Inavlid

Where CT=cart total in dollars;

Boundary Case Table:

Boundary TC ID	ID	Quantity	Output
1	0000	Any	Invalid
2	00000	Q1, Q2	Valid (CT<=999.99)
3	99999	Q1, Q2	Valid (CT<=999.99)
4	100000	Any	Invalid
5	12345	-1	Invalid
6	12345	0	Invalid
7	12345	1	Valid (CT<=999.99)
8	12345	99	Valid (CT<=999.99)
9	12345	100	Invalid