SQA Assignment 4 Solution – Spring 2016

Answer:

The question is to calculate tax Z = f(X, Y). We should apply Boundary Value Analysis to X, Y and Z.

Case#	X	Y	Z
1	0.5(invalid)	0	Invalid
2	**1(valid)**	-0.01K	Invalid
3		0	0
4		0.01K	0
5		5.99K	0
6		6K	0
7		6.01K	(6.01K-6K)*10% = 0.001K
8		54.99K	(54.99K-6K)*10% = 4.899K
9		55K	(55K-6K)*10% = 4.9K
10		55.01K	4.9K+(55.01K-55K)*20% = 4.902K
11		104.99K	4.9K+(104.99K-55K)*20% = 14.898K
12		105K	4.9K+(105K-55K)*20% = 14.9K
13		105.01K	14.9K+(105.01K-105K)*30% = 14.903K
14		159.99K	14.9K+(159.99K-105K)*30% = 31.397K
15		160K	14.9K + (160K-105K)*30% = 31.4K
16		160.01K	31.4K + (160.01K-160K)*40% = 31.404K
17	1.5(invalid)	0	Invalid
18	2(valid)	-0.01K	Invalid
19		0	0
20		0.01K	0
21		9.99K	0
22		10.00K	0
23		10.01K	(10.01K-10K)*10% = 0.001K
24		69.99K	(69.99K-10K)*10% = 5.999K
25		70.00K	(70K-10K)*10% = 6K
26		70.01K	6K+(70.01K-70K)*20% = 6.002K
27		119.99K	6K+(119.99K-70K)*20% = 15.998K
28		120.00K	6K+(120K-70K)*20% = 16K
29		120.01K	16K+(120.01K-120K)*30% = 16.003K
30		249.99K	16K+(249.99K-120K)*30% = 54.997K
31		250K	16K+(250K-120K)*30% = 55K
32		250.01K	55K + (250.01K-250K)*40% = 55.004K

33	2.5(invalid)	0	Invalid