Assignment-1   Shraddha Patel

Problem-1

The Grader component accepts six inputs: Last name, First name, Student #, Exam-1, Exam-2, Project.

Input Conditions	Valid Subdomain	Invalid Subdomain
Does first Name Contain letter?	Yes	No- (1)
Does Last Name Contain letter?	Yes	No-(2)
Size of First Name	1-15	<1 –(3)
		>15-(4)
Size of Last Name	1-20	<1-(5)
		>20-(6)
Is student # number contain 9 characters?	yes	No-(7)
Is student # number in format AXXXXXXXXX/start with A?	Yes	No-(8)
Is Student # has X as digit?	Yes	No-(9)
Exam-1	0-44	<0-(10)
	45-59	>90-(11)
	60-90	
Exam-2	0-49	<0-(12)
	50-54	>100-(13)
	55-100	
Project	0-49	<0-(14)
	50-59	>80-(15)
	60-69	
	70-80	
(Exam1+Exam-2)/2 >79	Yes	
	No	

Exam-1, Exam-2, Project marks and Average Value are related.

Strong normal Equivalence Testing for the Grader component:

Valid Test cases:

Test Case	FirstName	LastName	A number	Exam1	Exam2	Project	Average>79	Grade
1	Shraddha	Patel	A30588273	42	46	46	NO	E
2	Shraddha	Patel	A30588275	42	46	56	NO	E
3	Shraddha	Patel	A30588277	42	46	66	NO	E
4	Shraddha	Patel	A30588279	42	46	76	NO	E
5	Shraddha	Patel	A30588281	42	54	46	NO	E
6	Shraddha	Patel	A30588283	42	54	56	NO	E
7	Shraddha	Patel	A30588285	42	54	66	NO	E
8	Shraddha	Patel	A30588287	42	54	76	NO	E
9	Shraddha	Patel	A30588289	42	64	46	NO	E
10	Shraddha	Patel	A30588291	42	64	56	NO	E
11	Shraddha	Patel	A30588293	42	64	66	NO	E
12	Shraddha	Patel	A30588295	42	64	76	NO	E
13	Shraddha	Patel	A30588297	56	44	34	NO	E
14	Shraddha	Patel	A30588299	56	44	58	NO	E
15	Shraddha	Patel	A30588301	56	44	68	NO	E
16	Shraddha	Patel	A30588303	56	44	72	NO	E
17	Shraddha	Patel	A30588305	56	51	34	NO	E

18	Shraddha	Patel	A30588307	56	51	58	NO	C
19	Shraddha	Patel	A30588309	56	51	68	NO	C
20	Shraddha	Patel	A30588311	56	51	72	NO	C
21	Shraddha	Patel	A30588313	56	88	34	NO	E
22	Shraddha	Patel	A30588315	56	88	58	NO	C
23	Shraddha	Patel	A30588317	56	88	68	NO	C
24	Shraddha	Patel	A30588319	56	88	72	NO	C
25	Shraddha	Patel	A30588321	76	44	48	NO	E
26	Shraddha	Patel	A30588323	76	44	58	NO	E
27	Shraddha	Patel	A30588325	76	44	68	NO	E
28	Shraddha	Patel	A30588327	76	44	78	NO	E
29	Shraddha	Patel	A30588329	76	52	48	NO	E
30	Shraddha	Patel	A30588331	76	52	58	NO	C
31	Shraddha	Patel	A30588333	76	52	68	NO	C
32	Shraddha	Patel	A30588335	76	52	78	NO	C
33	Shraddha	Patel	A30588336	76	92	48	YES	E
34	Shraddha	Patel	A30588338	76	92	58	YES	C
35	Shraddha	Patel	A30588340	76	92	68	YES	B
36	Shraddha	Patel	A30588342	76	92	78	YES	A

Invalid (Fail Test cases):

Assignment-1   **Shraddha Patel**

Test Case	FirstName	LastName	A number	Exam1	Exam2	Project	Average>79	Grade
1	Shraddha	Patel	A30588272	42	46	46	YES	NA
2	Shraddha	Patel	A30588274	42	46	56	YES	NA
3	Shraddha	Patel	A30588276	42	46	66	YES	NA
4	Shraddha	Patel	A30588278	42	46	76	YES	NA
5	Shraddha	Patel	A30588280	42	54	46	YES	NA
6	Shraddha	Patel	A30588282	42	54	56	YES	NA
7	Shraddha	Patel	A30588284	42	54	66	YES	NA
8	Shraddha	Patel	A30588286	42	54	76	YES	NA
9	Shraddha	Patel	A30588288	42	64	46	YES	NA
10	Shraddha	Patel	A30588290	42	64	56	YES	NA
11	Shraddha	Patel	A30588292	42	64	66	YES	NA
12	Shraddha	Patel	A30588294	42	64	76	YES	NA
13	Shraddha	Patel	A30588296	56	44	34	YES	NA
14	Shraddha	Patel	A30588298	56	44	58	YES	NA
15	Shraddha	Patel	A30588300	56	44	68	YES	NA
16	Shraddha	Patel	A30588302	56	44	72	YES	NA
17	Shraddha	Patel	A30588304	56	51	34	YES	NA
18	Shraddha	Patel	A30588306	56	51	58	YES	NA
19	Shraddha	Patel	A30588308	56	51	68	YES	NA
20	Shraddha	Patel	A30588310	56	51	72	YES	NA
21	Shraddha	Patel	A30588312	56	88	34	YES	NA

22	Shraddha	Patel	A30588314	56	88	58	YES	NA
23	Shraddha	Patel	A30588316	56	88	68	YES	NA
24	Shraddha	Patel	A30588318	56	88	72	YES	NA
25	Shraddha	Patel	A30588320	76	44	48	YES	NA
26	Shraddha	Patel	A30588322	76	44	58	YES	NA
27	Shraddha	Patel	A30588324	76	44	68	YES	NA
28	Shraddha	Patel	A30588326	76	44	78	YES	NA
29	Shraddha	Patel	A30588328	76	52	48	YES	NA
30	Shraddha	Patel	A30588330	76	52	58	YES	NA
31	Shraddha	Patel	A30588332	76	52	68	YES	NA
32	Shraddha	Patel	A30588334	76	52	78	YES	NA
33	Shraddha	Patel	A30588337	76	92	48	NO	NA
34	Shraddha	Patel	A30588339	76	92	58	NO	NA
35	Shraddha	Patel	A30588341	76	92	68	NO	NA
36	Shraddha	Patel	A30588343	76	92	78	NO	NA

Weak robust equivalence testing

Test Case	FirstName	LastName	Anumber	Exam1	Exam2	Project
1	$hraddha	Patel	A30588272	65	65	65
2		P@T$!	A30588272	65	65	65

3		Patel	A30588272	65	65	65
4	Shraddha		A30588272	65	65	65
5	$hraddha@@Patel		A30588272	65	65	65
6	Shraddha	PATELLLLLLLLLLLLLLLLLLLLL	A30588272	65	65	65
7	Shraddha	Patel	A308888888B	65	65	65
8	Shraddha	Patel	B30599AAF	65	65	65
9	Shraddha	Patel	ABCDEFGHI	65	65	65
10	Shraddha	Patel	A30588272	-10	75	77
11	Shraddha	Patel	A30588272	95	75	77
12	Shraddha	Patel	A30588272	55	-5	77
13	Shraddha	Patel	A30588272	55	120	77
14	Shraddha	Patel	A30588272	55	66	-2
15	Shraddha	Patel	A30588272	55	66	88

Problem-2

Input Conditions	Valid Subdomain	Invalid Subdomain
Does first Name Contain letter?	Yes	No- (1)
Does Last Name Contain letter?	Yes	No-(2)
Size of First Name	1-15	<1 –(3)

		>15-(4)
Size of Last Name	1-20	<1-(5)
		>20-(6)
Is student # number contain 9 characters?	yes	No-(7)
Is student # number in format AXXXXXXXXX/start with A?	Yes	No-(8)
Is Student # has X as digit?	Yes	No-(9)
Exam-1	0-44	<0-(10)
	45-59	>90-(11)
	60-90	
Exam-2	0-49	<0-(12)
	50-54	>100-(13)
	55-100	
Project	0-49	<0-(14)
	50-59	>80-(15)
	60-69	
	70-80	
	Yes	
(Exam1+Exam-2)/2 >79	No	

Normal Boundary value Analysis Test Cases

Test Case	FirstName	LastName	Exam1	Exam2	Project
1	S	PATEL	46	56	76
2	SH	PATEL	46	56	76
3	SHRADDHAPATELL	PATEL	46	56	76
4	SHRADDHAPATELLL	PATEL	46	56	76

5	SHRADDHA	P	46	56	76
6	SHRADDHA	PA	46	56	76
7	SHRADDHA	PATELLLLLLLLLLLLLLL	46	56	76
8	SHRADDHA	PATELLLLLLLLLLLLLLLL	46	56	76
9	SHRADDHA	PATEL	0	56	76
10	SHRADDHA	PATEL	1	56	76
11	SHRADDHA	PATEL	43	56	76
12	SHRADDHA	PATEL	44	56	76
13	SHRADDHA	PATEL	45	56	76
14	SHRADDHA	PATEL	46	56	76
15	SHRADDHA	PATEL	58	56	76
16	SHRADDHA	PATEL	59	56	76
17	SHRADDHA	PATEL	60	56	76
18	SHRADDHA	PATEL	61	56	76
19	SHRADDHA	PATEL	89	56	76
20	SHRADDHA	PATEL	90	56	76
21	SHRADDHA	PATEL	66	0	76
22	SHRADDHA	PATEL	66	1	76
23	SHRADDHA	PATEL	66	48	76
24	SHRADDHA	PATEL	66	49	76
25	SHRADDHA	PATEL	66	50	76
26	SHRADDHA	PATEL	66	51	76
27	SHRADDHA	PATEL	66	53	76
28	SHRADDHA	PATEL	66	54	76

29	SHRADDHA	PATEL	66	55	76
30	SHRADDHA	PATEL	66	56	76
31	SHRADDHA	PATEL	66	99	76
32	SHRADDHA	PATEL	66	100	76
33	SHRADDHA	PATEL	66	86	0
34	SHRADDHA	PATEL	66	86	1
35	SHRADDHA	PATEL	66	86	48
36	SHRADDHA	PATEL	66	86	49
37	SHRADDHA	PATEL	66	86	50
38	SHRADDHA	PATEL	66	86	51
39	SHRADDHA	PATEL	66	86	58
40	SHRADDHA	PATEL	66	86	59
41	SHRADDHA	PATEL	66	86	60
42	SHRADDHA	PATEL	66	86	61
43	SHRADDHA	PATEL	66	86	68
44	SHRADDHA	PATEL	66	86	69
45	SHRADDHA	PATEL	66	86	70
46	SHRADDHA	PATEL	66	86	71
47	SHRADDHA	PATEL	66	86	79
48	SHRADDHA	PATEL	66	86	80

Robust Boundary value Test Cases

Test Case	FirstName	LastName	Exam1	Exam2	Project
1		PATEL	46	56	76
2	SHRADDHASHRADDHA	PATEL	46	56	76
3	SHRADDHA		46	56	76

4	SHRADDHA	PPPPPPPPPPPPPPPPPPPPPP	46	56	76
5	SHRADDHA	PATEL	-1	56	76
6	SHRADDHA	PATEL	91	56	76
7	SHRADDHA	PATEL	67	-1	76
8	SHRADDHA	PATEL	67	101	76
9	SHRADDHA	PATEL	67	56	-1
10	SHRADDHA	PATEL	67	56	81

Problem-3

The component accepts five inputs: Salesman name, Salesman type, Item type, Customer type, Item price.

No	Condition /Rules	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
c1	Size of name <=20	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
c2	Salesman Type-Salaried	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T																		
c3	Salesman Type-Non-Salaried																			T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
c4	Item Type-Standard	T	T	T	T	T	T													T	T	T	T	T	T												
c5	Item Type-Bonus							T	T	T	T	T	T													T	T	T	T	T	T						
c6	Item Type-General													T	T	T	T	T	T													T	T	T	T	T	T
c7	Cust-Type-Regular	T	T	T				T	T	T				T	T	T				T	T	T				T	T	T				T	T	T			
c8	Cust-Type-Walk In				T	T	T				T	T	T				T	T	T				T	T	T				T	T	T				T	T	T

No	Condition																											
c9	Item-cost >5000	T			T			T			T			T			T			T			T			T			T		
c10	500<Item_cost<=5000		T			T			T			T			T			T			T			T			T			T	
c11	0<item_cost<=500			T			T			T			T			T			T			T			T			T			T
A1	7% Commission																								X			X	X
A2	3% Commission								X																			X	
A3	No commission	X	X	X	X	X	X	X	X	X				X	X	X				X	X	X	X	X	X	X	X	X	
A4	$30 Commission										X	X																	
A5	$65 Commission																							X	X				
A6	2% Commission													X	X	X													
A7	Invalid Input																												
A8	Impossible																												

Possible Invalid input and impossible condition:

No	Condition	R37	R38	R39	R40	R41	R42	R43	R44	R45	R46
c1	Size of name <=20										
c2	Salesman Type-Salaried	T									
c3	Salesman Type-Non-Salaried	T									

c4	Item Type-Standard		T			T	T					
c5	Item Type-Bonus		T	T			T					
c6	Item Type-General				T	T	T					
c7	Cust-Type-Regular							T				
c8	Cust-Type-Walk In							T				
c9	Item-cost >5000								T		T	T
c10	500<Item_cost<=5000								T	T		T
c11	0<item_cost<=500									T	T	T
A1	7% Commission											
A2	3% Commission											
A3	No commission											
A4	$30 Commission											
A5	$65 Commission											
A6	2% Commission											
A7	Invalid Input											
A8	Impossible		X	X	X	X	X	X	X	X	X	X

Test cases:

Test Cases	Name	Salesman Type	Item Type	Cust_Type	Item_cost	Action
1	shraddha	Salaried	Standard	Regular	5200	No Commission
2	shraddha	Salaried	Standard	Regular	520	No Commission
3	shraddha	Salaried	Standard	Regular	220	No Commission
4	shraddha	Salaried	Standard	Walk-in	6200	No Commission
5	shraddha	Salaried	Standard	Walk-in	620	No Commission
6	shraddha	Salaried	Standard	Walk-in	240	No Commission
7	shraddha	Salaried	Bonus	Regular	7200	No Commission
8	shraddha	Salaried	Bonus	Regular	720	No Commission

9	shraddha	Salaried	Bonus	Regular	260	No Commission
10	shraddha	Salaried	Bonus	Walk-in	8200	$30
11	shraddha	Salaried	Bonus	Walk-in	820	$30
12	shraddha	Salaried	Bonus	Walk-in	280	3%
13	shraddha	Salaried	General	Regular	9200	No Commission
14	shraddha	Salaried	General	Regular	920	No Commission
15	shraddha	Salaried	General	Regular	300	No Commission
16	shraddha	Salaried	General	Walk-in	9500	2%
17	shraddha	Salaried	General	Walk-in	950	2%
18	shraddha	Salaried	General	Walk-in	100	2%
19	shraddha	Non Salaried	Standard	Regular	5200	No Commission
20	shraddha	Non Salaried	Standard	Regular	520	No Commission
21	shraddha	Non Salaried	Standard	Regular	220	No Commission
22	shraddha	Non Salaried	Standard	Walk-in	6200	No Commission
23	shraddha	Non Salaried	Standard	Walk-in	620	No Commission
24	shraddha	Non Salaried	Standard	Walk-in	240	No Commission
25	shraddha	Non Salaried	Bonus	Regular	7200	No Commission
26	shraddha	Non Salaried	Bonus	Regular	720	No Commission
27	shraddha	Non Salaried	Bonus	Regular	260	No Commission
28	shraddha	Non Salaried	Bonus	Walk-in	8200	$65
29	shraddha	Non Salaried	Bonus	Walk-in	820	$65
30	shraddha	Non Salaried	Bonus	Walk-in	280	7%
31	shraddha	Non Salaried	General	Regular	9200	No Commission
32	shraddha	Non Salaried	General	Regular	920	No Commission
33	shraddha	Non Salaried	General	Regular	300	No Commission
34	shraddha	Non Salaried	General	Walk-in	9500	3%
35	shraddha	Non Salaried	General	Walk-in	950	7%
36	shraddha	Non Salaried	General	Walk-in	100	7%