Software Testing and Analysis-CS589

Homework-1

Specification-Based Testing

Problem#1

Input Conditions	Valid Subdomains	Invalid Subdomain	S
Last name has letters	Yes	No, something else	(1)
First name has letters	Yes	No, something else	(2)
Size of the first name	1-15 characters	0	(3)
		>15	(4)
Size of the last name	1-20 characters	0	(5)
		>20	(6)
Size of student #	9	<9	(7)
		>9	(8)
First character of student # is" A"	Yes	No, something else	(9)
2-8 characters of student# are digits	Yes	No, something else	(10)
Exam 1(E1)	0<=E1<=45 (a)	<0	(11)
(C1)	46<=E1<=60 (b)	>90	(12)
	61<=E1<=90 (c)		
Exam2(E2)	0<=E2<=50 (d)	<0	(13)
(C2)	51<=E2<=55 (e)	>100	(14)
	56<=E2<=100 (f)		
Project(P)	0<=P<=50 (g)	<0	(15)
(C3)	51<=P<=60 (h)	>80	(16)
	61<=P<=70 (i)		
	71<=P<=80 (j)		
Average	0<=Avg<=80 (k)	<0	(17)
(C4)	81<=Avg<=95 (I)	>95	(18)

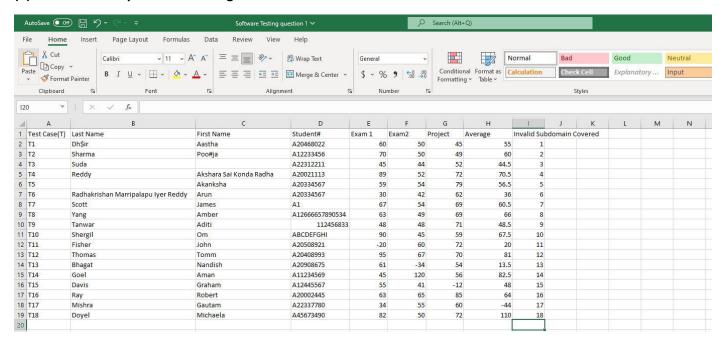
Exam1, Exam2, Project, and Average are related. Total test cases are 3*3*4*2=72

(a)Strong Normal Equivalence Testing

Test Case(T)	Last name	First name	Student #	Exam1	Exam2	Project	C1	C2	C3	C4	Average	
Г1	Patel	Shardhha	A20468022	43	50	45	a	d	g	k	46.5	
Γ2	Froster	Robert	A23456899	51	50	50	b	d	g	k	50.5	
Г3	Maxwell	Ann	A34526788	66	50	50	С	d	g	k	55	
T4	Michael	Roy	A23056789	45	50	52	а	d	g	1	No Test case	
Г5	Tony	Sutton	A12347897	60	50	45	b	d	g	1	No test case	
Г6	Warren	Roger	A20409877	80	50	50	С	d	g	1	No Test case	
7	Kumar	Rohit	A21345688	33	50	53	a	d	h	k	41.5	
Г8	Jain	Rishabh	A20506784	55	40	54	b	d	h	k	47.5	
Г9	Shah	Kajol	A21223455	90	45	59	С	d	h	k	67.5	
T10	Johnson	Carlos	A34236785	40	48	50	а	d	h	1	No Test Case	
T11	Brown	Jazz	A23456756	56	47	58	b	d	h	E	No Test case	
T12	Wendy	Romero	A12344455	89	49	54	С	d	h	1	No Test case	
T13	Bhagat	Nandish	A78562312	30	42	62	a	d	i.	k	36	
T14	Stevens	Charles	A13458788	46	49	61	b	d	i	k	47.5	
Γ15	Fisher	John	A12455567	63	49	69	С	d	1.	k	66	
16	Mishra	Gautam	A12223345	42	40	64	а	d	i	1	No test case	
17	Krishnan	Shweta	A21905643	52	50	61	b	d	i.	1	No Test case	
118	Nagpure	Vaishali	A23004567	90	43	67	С	d	i	T	No Test case	
T 1 9	Suda	Edward	A34567780	40	50	75	a	d	J	k	45	
720	Tanwar	Aditi	A23344576	48	49	71	b	d	j	k	48.5	
T21	Doyel	Michaela	A23004563	82	50	72	С	d	j	k	66	
Γ22	Goel	Aman	A12332456	44	58	79	а	d	j	T	No Test case	
T23	Kaur	Mannat	A67543421	59	46	78	b	d	j	1	No Test case	
Γ24	Singh	Taran	A21332456	88	50	76	С	d	j	1	No Test case	
T25	Chopra	Ria	A22336677	45	51	71	a	e	g	k	48	
Γ26	Sehgal	Anjali	A12348899	59	54	79	b	e	g	k	56.5	
727	Sharma	Pooja	A55667990	89	52	72	С	e	g	k	70.5	
728	Dhir	Akanksha	A22344821	45	51	45	а	e	g	1	No Test case	
Г29	Krishnan	Abhirami	A54632189	47	52	49	b	e	g	1	No Test case	
Г30	Khan	Marriyam	A12440004	63	54	48	С	e	g	1	No Test case	
T31	Khan	Salman	A22134561	44	53	52	a	e	h	k	48.5	
T32	Thomas	Tom	A12563200	60	50	55	b	e	h	k	55	
Г33	Davis	Graham	A23469562	67	54	59	С	e	h	k	60.5	
Г34	Hirrish	Rachel	A22113478	44	51	59	а	e	h	1	No test case	
Г35	Khan	Zara	A21325670	62	52	52	b	e	h	1	No test case	
T36	Ray	Robert	A89006543	82	51	60	С	e	h	1	No Test case	
Г37	Yang	Amber	A11222234	45	50	63	a	e	1	k	47.5	

36	T35	Khan	Zara	A21325670	62	52	52 b	e	h	1	No test case
37	T36	Ray	Robert	A89006543	82	51	60 c	e	h	10	No Test case
38	T37	Yang	Amber	A11222234	45	50	63 a	e	i	k	47.5
39	T38	Zhang	Jin	A11111990	59	55	62 b	e	ı	k	57
40	T39	Underwood	Jerry	A20785642	63	54	69 c	e	16	k	58.5
41	T40	Walker	Harold	A20755673	44	44	62 a	e	ı	I	No Test case
42	T41	Shaw	Roman	A23457712	55	52	69 b	e	ı	100	No Test case
43	T42	Jones	Jessica	A19997654	88	50	68 c	e	i	100	No Test case
44	T43	Conner	Brandy	A33328990	33	51	75 a	e	j	k	42
45	T44	Parsons	Mike	A16665743	48	52	77 b	e	j	k	50
46	T45	Bruce	Andy	A22345678	90	54	78 c	e	j	k	72
47	T46	Lowwe	Philips	A26754822	23	52	79 a	e	j	II.	No Test case
48	T47	Chang	Ashley	A33311209	59	51	78 b	е	j	107	No Test case
49	T48	Newton	Issac	A12097503	90	54	80 c	e	j	18	No Test case
50	T49	Simmons	James	A22785001	14	57	45 a	f	g	k	35.5
51	T50	Anderson	Sabrina	A20664531	55	55	40 b	f	g	k	55
52	T51	Hunter	Gail	A12456732	88	60	45 c	f	g	k	74
53	T52	Singh	Bhagat	A23189671	22	80	49 a	f	g	1	No Test case
54	T53	Singh	Sukhdev	A22233399	59	98	48 b	f	g	189	No Test case
55	T54	Rajguru	Shivram	A99012034	90	98	48 c	f	g	II.	Yes, Test case
56	T55	Martin	Eve	A11208945	23	57	55 a	f	h	k	40
57	T56	Ghosh	Megha	A23114535	59	61	59 b	f	h	k	60
58	T57	Patil	Vaibhav	A20564320	74	88	60 c	f	h	k	No test case
59	T58	Sophia	Adams	A45321784	45	100	59 a	f	h	I	No Test case
60	T59	Weber	Stacey	A20904753	58	59	59 b	f	h	107	No Test case
61	T60	Donald	Macy	A12449990	88	100	60 c	f	h	1	yes,test case
62	T61	Zhangg	Amanda	A12567432	12	72	67 a	f	i	k	42
63	T62	Patel	Danniel	A20885643	46	73	69 b	f	ı	k	59.5
64	T63	Brown	Melissa	A20443232	78	56	70 c	f	i	k	67
65	T64	Bhandari	Nidhi	A23675543	40	100	70 a	f	i	I	No test case
66	T65	Crystal	Pittis	A12883422	60	100	69 b	f	ı	18	no Test case
67	T66	Jonny	George	A23411012	89	100	68 c	f	ı	T)	yes,test case
68	T67	Sanders	Joseph	A12001122	10	100	77 a	f	j	k	55
69	T68	Dorsel	Rose	A20589003	60	90	72 b	f	j	k	75
70	T69	Moore	James	A12778133	89	90	78 c	f	j	k	No Test case
71	T70	Ortiz	Hellen	A12784364	15	72	74 a	f	j	T.	No Test case
	T71	Shah	Helly	A27893210	59	87	79 b	f	j	10	No Test case
73	T72	Alex	Karina	A21090454	84	85	80 c	f	j	10	Yes, test case

(b)Weak Robust Equivalence testing



Problem #2 Boundary Value Testing

Input Conditions	Valid Subdomains/ Boundaries	Invalid Subdomains/ Boundaries
Last name has letters	Yes	No Boundaries
First name has letters	Yes	No Boundaries
Size of the first name	1-15 characters	0
(a)		>15
Size of the last name	1-20 characters	0
(b)		>20
Size of student #	9	<9
(c)		>9
First character of student # is" A"	Yes	No Boundaries
2-8 characters of student# are digits	Yes	No Boundaries
Exam 1(E1)	0<=E1<=45	<0

(d)	46<=E1<=60	>90	
	61<=E1<=90		
Exam2(E2)	0<=E2<=50	<0	
(e)	51<=E2<=55	>100	
	56<=E2<=100		
Project(P)	0<=P<=50	<0	
(f)	51<=P<=60	>80	
	61<=P<=70		
	71<=P<=80		
Average	0<=Avg<=80	<0	
(g)	81<=Avg<=95	>95	

(a)Normal Boundary Value Analysis Test Cases

(a)Size of the first name

Test	Last	First	Student#	Exam1	Exam2	Project	Average
Case(T)	Name	Name					
T1	Dhir	Α	A20468022	60	50	45	55
T2	Sharma	Akshara	A22345679	45	44	52	44.5
		Sai					
		Radha					
T3	Goel	Sai	A11234667	63	45	59	54
T4	Singh	Tavleen	A22345677	32	40	49	36
		Guru					

(b) Size of last name

Test	Last Name	First	Student#	Exam1	Exam2	Project	Average
Case(T)		Name					
T5	D	Aastha	A20468022	60	50	45	55
Т6	Radhakrishnan	Akshara	A22345679	45	44	52	44.5
	Lavanya						
T7	Goel	Sai	A11234667	63	45	59	54
T8	Singh Guru	Tanvi	A22345677	32	40	49	36

(c) Size of student

Test	Last	First	Student#	Exam1	Exam2	Project	Average
Case(T)	Name	Name					
T9	Dhir	Aastha	A20468022	60	50	45	55

(d) Exam1

Test	Last	First	Student#	Exam1	Exam2	Project	Average
Case(T)	Name	Name					
T10	Dhir	Aastha	A20468022	0	50	45	25
T11	Sharma	Akshara	A22345679	45	44	52	44.5
T12	Goel	Sai	A11234667	2	45	59	54
T13	Singh	Tavleen	A22345677	44	40	49	36
T14	Kaur	Mannat	A20508796	47	50	52	48.5
T15	Scott	James	A23000456	60	45	55	52.5
T16	Patel	Dhruv	A20130098	59	67	78	63
T17	Chopra	Ria	A12223489	62	61	70	61.5
T18	Davis	Graham	A20564312	90	56	71	73

T19	Doyle	Micaela	A29045367	88	48	50	68
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(d) Exam2

Test	Last	First	Student#	Exam1	Exam2	Project	Average
Case(T)	Name	Name					
T20	Dhir	Aastha	A20468022	40	0	45	20
T21	Sharma	Akshara	A22345679	45	50	52	47.5
T22	Goel	Sai	A11234667	27	2	59	14.5
T23	Singh	Tavleen	A22345677	44	48	49	46
T24	Kaur	Mannat	A20508796	47	52	52	49.5
T25	Scott	James	A23000456	60	55	55	57.5
T26	Patel	Dhruv	A20130098	59	57	78	58
T27	Chopra	Ria	A12223489	62	54	70	58
T28	Davis	Graham	A20564312	90	100	71	95
T29	Doyle	Micaela	A29045367	88	97	50	92.5

(e) Project

Test	Last	First	Student#	Exam1	Exam2	Project	Average
Case(T)	Name	Name					
T30	Dhir	Aastha	A20468022	40	50	0	20
T31	Sharma	Akshara	A22345679	45	50	3	47.5
T32	Goel	Sai	A11234667	27	42	50	14.5
T33	Singh	Tavleen	A22345677	44	48	47	46
T34	Kaur	Mannat	A20508796	47	52	52	49.5
T35	Scott	James	A23000456	60	55	60	57.5
T36	Patel	Dhruv	A20130098	59	57	58	58
T37	Chopra	Ria	A12223489	62	54	61	58
T38	Davis	Graham	A20564312	90	100	70	95
T39	Doyle	Micaela	A29045367	88	97	68	92.5
T40	Tanwar	Aditi	A20789065	45	48	72	46.5
T41	Sikka	Palak	A12234558	55	64	80	59.5
T42	Markle	Meagan	A12904580	61	56	79	58.5

(f) Average

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Test	Last	First	Student#	Exam1	Exam2	Project	Average
Case(T)	Name	Name					
T43	Dhir	Aastha	A20468022	0	0	50	0
T44	Sharma	Akshara	A22345679	45	50	39	47.5
T45	Goel	Sai	A11234667	80	80	50	80
T46	Singh	Tavleen	A22345677	44	48	47	46
T47	Kaur	Mannat	A20508796	82	84	52	83
T48	Scott	James	A23000456	90	100	60	95
T49	Patel	Dhruv	A20130098	90	92	58	91

(b) Robust Boundary Value Test Cases

(a) Size of first name

Test	Last	First Name	Student#	Exam1	Exam2	Project	Average
Case(T)	Name						
T1	Dhir		A20468022	60	50	45	55

T2	Sharma	Akshara Sai	A22345679	45	44	52	44.5
		Radhakrishnan					

(b) Size of last name

Test	Last Name	First	Student#	Exam1	Exam2	Project	Average
Case(T)		Name					
T3		Α	A20468022	60	50	45	55
T4	Radhakrishnan	Akshara	A22345679	45	44	52	44.5
	Marripalapu						
	Iyer Reddy						

(c) Size of Student

Test	Last	First	Student#	Exam1	Exam2	Project	Average
Case(T)	Name	Name					
T5	Dhir	Aastha	A2	60	50	45	55
Т6	Sharma	Aditi	A22333444455	45	44	52	44.5

(d)Exam1

Test	Last	First	Student#	Exam1	Exam2	Project	Average
Case(T)	Name	Name					
T7	Dhir	Aastha	A20468022	-25	50	45	12.5
T8	Sharma	Aditi	A12346739	93	52	52	72.5

(e)Exam2

Test	Last	First	Student#	Exam1	Exam2	Project	Average
Case(T)	Name	Name					
T9	Dhir	Aastha	A20468022	60	-26	45	17
T10	Bond	James	A20908765	65	120	55	92.5

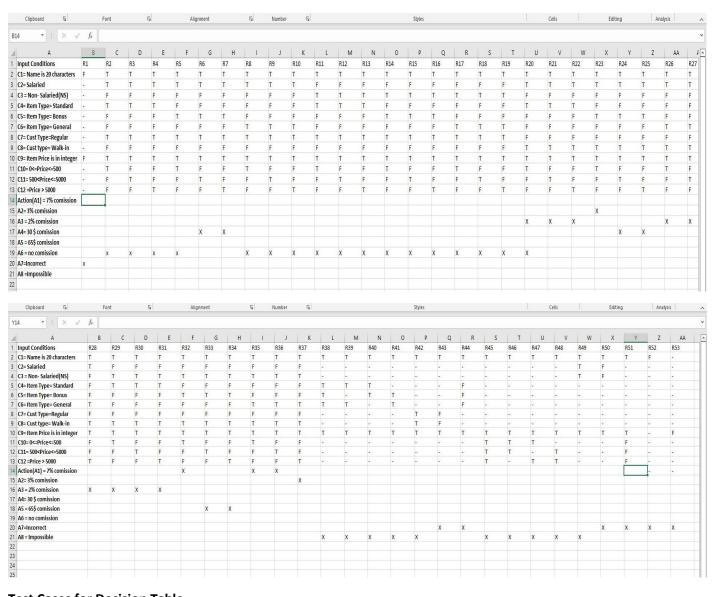
(f) Project

Test	Last	First	Student#	Exam1	Exam2	Project	Average
Case(T)	Name	Name					
T11	Dhir	Aastha	A20468022	60	50	-27	55
T12	Bond	James	A20567892	65	60	82	62.5

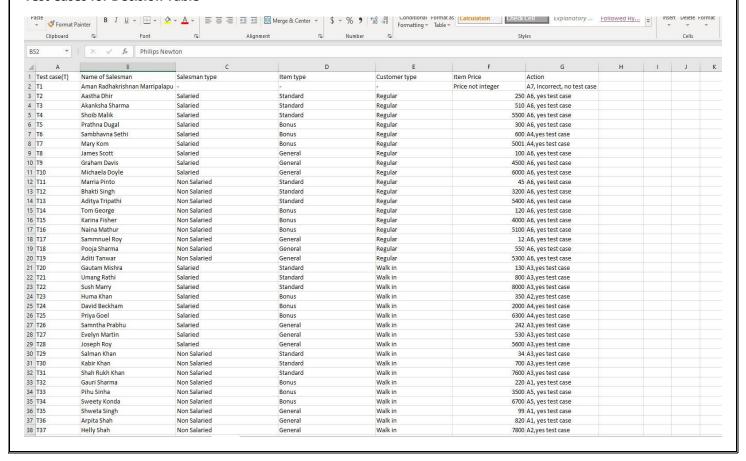
(g)Average

Test	Last	First	Student#	Exam1	Exam2	Project	Average
Case(T)	Name	Name					
T13	Dhir	Aastha	A20468022	60	50	45	-31
T14	Bond	James	A20906745	65	70	75	107

Problem # 3 Decision Table Testing



Test Cases for Decision Table



100100		J. 1-20	1				
7 T36	Arpita Shah	Non Salaried	General	Walk in	82	20 A1, yes test case	
88 T37	Helly Shah	Non Salaried	General	Walk in	780	00 A2,yes test case	
39 T38	Chahat Jain	-	Standard, Bonus, General	-	27	70 A8, no test case	
10 T39	Malik Khan	-	Standard, General	-	240	00 A8, no test case	
11 T40	Kajol Ghosh	70	Standard, Bonus	-	100	00 A8, no test case	
12 T41	Rishabh Jain		Bonus, General	÷	120	00 A8, no test case	
13 T42	Rohit Kumar	5	n)	Regular, Walk in	34	10 A8, no test case	
14 T43	Edward Suda	-	24	Not Regular or walk in	210	00 A7,incorrect,no test case	
15 T44	Rose Dorsel	5	Not Standard, Bonus or general	-	120	04 A7, Incorrect, no test case	
16 T45	Vaishali Nagpure	-	25	-	120, 1245 , 7800	A8, no test case	
17 T46	Amit Singh	5	76	-	120, 1564, 9000	A8, no test case	
18 T47	Ausaf Ali	-	2	÷	23, 6800	A8, no test case	
19 T48	Yang Amber	5	76	-	3404, 7700	A8, no test case	
0 T49	Charles Stevens	Salaried, non salaried	2	ě	32	21 A8, no test case	
51 T50	Roger Warren	Not Salaried or non salaried	16	-	12	22 A7, incorrect no test case	
2 T51	Philips Newton	1	±1	ě	Not in any given range	A7, incorrect no test case	
53 T52	Maria Radhakrishnan Iyer Reddy	5	70	-	5	A7, incorrect no test case	
4 T53	-	-	8	ė	Not an integer	A7,incorrect,no test case	

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