Home Work #1

CS 589
ARPITA GOWDA (A20310029)

09-18-2013

Problem #1 Equivalence partition testing

⇒ Input Conditions, Valid and Invalid Subdomains.

Input Conditions	Valid Subdomains	Invalid Subdom
Size of Last Name	1 – 20 (1)	0 (2) >20 (3)
Person Age Limit	18 ≥ Age ≤ 120 (4)	<18 (5) >120 (6)
Car Type	Sedan (7) Mini-Van (8) Truck (9) SUV (10)	Empty Value (11) Everything else (1
# of Claims	0 ≥ claims ≤ 12 (13)	>12 (14)
Car age	1 ≥ Cage ≤ 120 (15)	0 (16) >120 (17)

Other Conditions

	# of Claims	Person Age	Car Age	Output
(18)	1	>24	<10	Inc $50 & no letter sent
(19)	1	>24	≥10	Inc $45 & no letter sent
(20)	0	≤23	<10	Inc $75 & no letter sent
(21)	0	≤23	≥10	Inc $67.5 & no letter sent

(2)

	# of Claims	Person Age	Car Age	Output
(22)	0	≥ 24	< 10	Inc $35 & no letter
(23)	0	≥ 24	≥ 10	Inc $31.5 & no letter
(24)	2,3,4	≤ 23	< 10	Inc $400 & warning let
(25)	2,3,4	≤ 23	≥ 10	Inc $360 & warning let
(26)	1	≤ 23	< 10	Inc $150 & warning lett
(27)	1	≤ 23	≥ 10	Inc $135 & warning let
(28)	2,3,4	≥ 24	< 10	Inc $200 & warning lette
(29)	2, 3, 4	≥ 24	≥ 10	Inc $180 & warning lett
(30)	≥ 5			Policy is cancelled

Strong Normal Equivalence Testing:

Test Case #	Last Name	Person Age	Car Type	# of Claims	Car Age	Subdom
1	Smith	28	Sedan	1	8	18
2	Smith	25	Sedan	1	12	19
3	Smith	21	Mini Van	0	7	20
4	Smith	20	Mini Van	0	14	21
5	Kuffners	26	Truck	0	3	22

Test Case #	Last Name	Person Age	Car Type	# of Claims	Car Age	Subdomain
6	Kuppens	28	Truck	0	13	23
7	Kuppens	22	SUV	2	2	24
8	Kuppens	19	SUV	3	2	24
9	Kuppens	21	SUV	4	2	24
10	Johnson	18	Sedan	2	14	25
11	Johnson	21	Sedan	3	18	25
12	Johnson	22	Sedan	4	20	25
13	Lee	22	Mini-Van	1	8	26
14	Lee	19	Mini-Van	1	14	27
15	Lee	27	Truck	2	5	28
16	Lee	29	Truck	3	3	28
17	Lee	32	Sedan	4	2	28
18	Bayer	28	Mini-Van	2	10	29
19	Bayer	30	Truck	3	20	29
20	Bayer	34	Sedan	4	15	29
21	Bayer	25	Sedan	5	4	30

(4)

Weak Robust Equivalence Testing

Test Case #	Last Name	Person Age	Car Type	# of Claims	Car Age	Subdo
1	-	18	Sedan	3	14	2
2	ELIZABETH HARLEYMADDISON	20	Mini-Van	4	15	3
3	Smith	15	Truck	2	10	5
4	Smith	129	Truck	5	15	6
5	Lee	24	-	2	11	11
6	Lee	23	Train	3	12	12
7	Kuffens	25	Truck	20	30	14
8	Kuffens	25	Mini-Van	0	0	16
9	Kuffens	21	SUV	0	122	17

Problem#2 Boundary Value Testing.

Based on identified sub-domains is Problem#1 design

1. Boundary-Value Analysis Test Cases.
2. Robustness test cases.

⇒

Boundary-Value Analysis Test cases

Test Case #	Last Name	Person Age	Car Type	# of Claims	Car Age	Subd
1	A	23	Mini-Van	2	2	(1) (
2	AM	18	Sedan	0	2	(1)(4)(
3	ELIZABETH HARLEYMALIN	19	Sedan	1	1	(1)(4)(
4	ELIZABETH HARLEYMALI	119	Truck	11	119	(1)(4)(
5	Smith	120	SUV	12	120	(4)(13
6.	Smith	20	SUV	2	3	(4)(13
7.	Kuffens	118	Mini-Van	10	118	(4)(13
8.	Lee	20	Mini-Van	2	10	(1)(4)
9.	ELIZABETH HARLEYMAD	23	Truck	4	4	(1)

RobustNess Test Cases

Test Case#	Last Name	Person Age	Car Type	# of Claims	Car Age	Subd
1	—	18	Sedan	0	1	(2)
2	ELIZABETH HARLEYMARLEE	21	Sedan	2	1	(3)

(6)

Test Case #	Last Name	Person Age	Car Type	# of Claims	Car Age	Subdo
3	Smith	17	Mini Van	0	3	(5)
4	Smith	121	Truck	2	10	(6)
5	Lee	23	SUV	13	15	(14)
6	Lee	28	SUV	0	0	(16)
7	Kuffner	120	Sedan	2	121	(17)

Problem #3 Decision-Table based Testing

⇒ For Reference the following diagrams are used

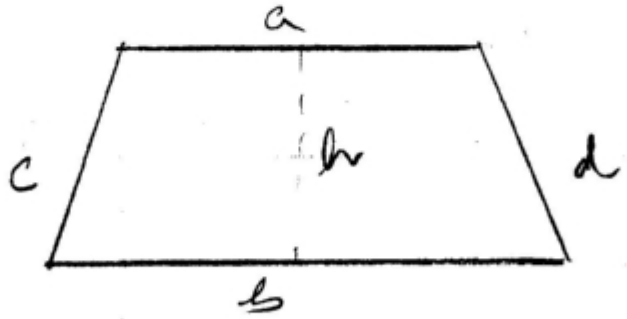
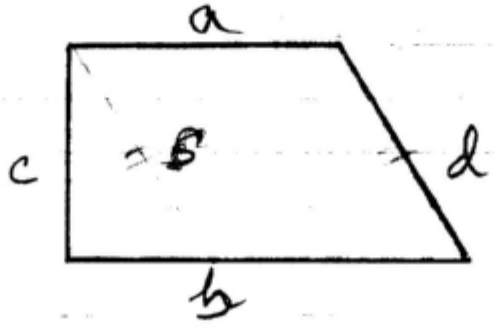


Fig 1.



E1: $0 < a \leq 1000$	F					T	T	T	T	T	T	
C2: $0 < b \leq 1000$		F				T	T	T	T	T	T	
C3: $0 < c \leq 1000$			F			T	T	T	T	T	T	
C4: $0 < d \leq 1000$				F		T	T	T	T	T	T	
C5: $b \neq a$					F	T	T	T	T	T	F	
C6: $c \neq d$							F	F	T	T	F	
C7: $c \neq b$							T	T	T	T	F	
C8: $c \neq a$							T	T	T	T	F	
C9: $b \neq d$							T	T	T	T	F	
C10: $d \neq a$							T	T	T	F	F	
C11: $s^2 = c^2 + (b-a)^2$						F		-	T	-		
C12: $h^2 > 0$ **						F	T	T	T	T	T	
A1: Trapezoid										X		
A2: Right Trapezoid									X			
A3: isosceles trapezoid							X					
A4: Scalene trapezoid								X				
A5: Not trapezoid						X						
A6: Invalid Input	X	X	X	X	X							
A7: Impossible											X	

(8)

Test Cases

Test Case #	a	b	c	d	Rule
T1	1520	72	25	27	R1
T2	52	0	25	27	R2
T3	52	72	1350	27	R3
T4	52	72	25	1270	R4
T5	52	52	25	27	R5
T6	1	2	1	2	R6
T7	52	72	25	25	R7
T8	52	72	25	27	R8
T9	5	9	3	5	R9
T10	8	12	11	9	R10
T11	52	52	22	26	R11