

Shweta Metkar – A20456405 –HW1

Problem 1:

Input conditions	Valid sub-domain	Invalid sub-domain
Size of last name	1-15	0 , >15
Last name has letters	Has letters	Something else
Size of first name	1-10	0 , >10
First name has letters	Has letters	Something else
Age value	18-24 25-110	<18 , >110
Age is integer	Is integer	Something else
Car type	Sedan, mini-van, Sedan, SUV, taxi	Something else
VIN has correct format	DLLLLDDLLLLDDDDDD	Something else
# of claims	0 1 2-4 5-10	<0 , >10

a. Strong normal equivalence test

The related input conditions are **age value** and **# of claims**. Considering the number of valid subdomains for each of these input conditions, we need 8 tests:

Test #1:

last name Harrison
first name Tom
Age 19
car type Sedan
VIN 1TGKP41JRLN189726
of claims 0

Test #2:

last name Harrison
first name Tom
Age 20
car type Sedan
VIN 1TGKP41JRLN189726
of claims 1

Test #3:

last name	Harrison
first name	Tom
Age	21
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	3

Test #4:

last name	Harrison
first name	Tom
Age	22
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	7

Test #5:

last name	Harrison
first name	Tom
Age	27
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #6:

last name	Harrison
first name	Tom
Age	29
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	1

Test #7:

last name	Harrison
first name	Tom
Age	32
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	2

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Test #8:

last name	Harrison
first name	Tom
Age	105
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	8

b. Weak robust equivalence testing

There are 13 invalid subdomains, therefore we need 13 tests:

Test #9:

last name	(empty)
first name	Tom
Age	27
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	3

Test #10:

last name	BenLizbeth
first name	Tom
Age	105
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	8

Test #11:

last name	Harrison89
first name	Tom
Age	105
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	8

Test #12:

last name	Harrison
first name	(empty)
Age	105
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	8

Test #13:

last name	Harrison
first name	TomPatrick
Age	105
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	8

Test #14:

last name	Harrison
first name	Tom98
Age	105
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	8

Test #15:

last name	Harrison
first name	Tom
Age	15
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	8

Test #16:

last name	Harrison
first name	Tom
Age	132
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	8

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Test #17:

last name	Harrison
first name	Tom
Age	Seven
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	8

Test #18:

last name	Harrison
first name	Tom
Age	105
car type	Plane
VIN	1TGKP41JRLN189726
# of claims	8

Test #19:

last name	Harrison
first name	Tom
Age	105
car type	Sedan
VIN	METKARPUN
# of claims	-2

Test #20

last name	Harrison
first name	Tom
Age	105
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	-2

Test #21

last name	Harrison
first name	Tom
Age	105
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	14

PROBLEM #2

Input conditions	Valid sub-domain(s)	Normal BVA Tests	Robust Boundary test
Size of last name	1-15	4	2
Last name has letters	Has letters	No boundaries!	
Size of first name	1-10	4	2
First name has letters	Has letters	No boundaries!	
Age value	18-24 25-110	7	2
Age is integer	Is integer	No boundaries!	
Car type	Sedan, mini-van, Sedan, SUV, taxi	No boundaries!	
VIN has correct format	DLLLLDDLLLLDDDDDD	No boundaries!	
# of claims	0 1 2-4 5-10	9	2

Test #1:

last name H
 first name Tom
 Age 19
 car type Sedan
 VIN 1TGKP41JRLN189726
 # of claims 0

Test #2:

last name Hs
 first name Tom
 Age 19
 car type Sedan
 VIN 1TGKP41JRLN189726
 # of claims 0

Test #3:

last name	JackieDan
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #4:

last name	JackieLizbeth
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #5:

last name	Harrison
first name	T
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #6:

last name	Harrison
first name	To
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #7:

last name	Harrison
first name	TomAndy
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #8:

last name	Harrison
first name	TomAmeeta
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #9:

last name	Harrison
first name	Tom
Age	20
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #10:

last name	Harrison
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #11:

last name	Harrison
first name	Tom
Age	24
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #12:

last name	Harrison
first name	Tom
Age	25
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #13:

last name	Harrison
first name	Tom
Age	26
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #14:

last name	Harrison
first name	Tom
Age	107
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #15:

last name	Harrison
first name	Tom
Age	110
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #16:

last name	Harrison
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	0

Test #17:

last name	Harrison
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	1

Test #18:

last name	Harrison
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	2

Test #19:

last name	Harrison
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	3

Test #20:

last name	Harrison
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	4

Test #21:

last name	Harrison
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	5

Test #22:

last name	Harrison
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	6

Test #23:

last name	Harrison
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	9

Test #24:

last name	Harrison
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	10

b. Robust Boundary test cases

We have 8 of these tests:

Test #25:

last name	(empty)
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	10

Test #26:

last name	HernandezAlvarez
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	10

Test #27:

last name	Harrison
first name	(empty)
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	10

Test #28:

last name	Harrison
first name	TomMichael
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	10

Test #29:

last name	Harrison
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	10

Test #30:

last name	Harrison
first name	Tom
Age	111
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	10

Test #31:

last name	Harrison
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	-1

Test #32:

last name	Harrison
first name	Tom
Age	19
car type	Sedan
VIN	1TGKP41JRLN189726
# of claims	11

PROBLEM #3

The next table is a Decision-table with all conditions found:

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
C1: Student# Format = ADDDDDDDD	F	-	-	-	-	-	-	T	T	T	T	T	T	T	T
C2: Exam1 < 0	-	T	-	-	-	-	-	F	F	F	F	F	F	F	F
C3: Exam1 > 100	-	-	T			-	-	F	F	F	F	F	F	F	F
C4: Exam2 < 0	-	-	-	T	-	-	-	F	F	F	F	F	F	F	F
C5: Exam2 > 100	-	-	-	-	T	-	-	F	F	F	F	F	F	F	F
C6: Project < 0	-	-	-	-	-	T	-	F	F	F	F	F	F	F	F
C7: Project > 100	-	-	-	-	-	-	T	F	F	F	F	F	F	F	F
C8: Exam1 ≥ 50	-	-	-	-	-	-	-	F	-	-	T	T	T	T	T
C9: Exam2 ≥ 60	-	-	-	-	-	-	-	-	F	-	T	T	T	T	T
C10: Project ≥ 50	-	-	-	-	-	-	-	-	-	F	T	T	T	T	T
C11: Exam1 ≥ 60	-	-	-	-	-	-	-	-	-	-	F	-	-	T	T
C12: Exam2 ≥ 65	-	-	-	-	-	-	-	-	-	-	-	F	-	T	T
C13: Project ≥ 60	-	-	-	-	-	-	-	-	-	-	-	-	F	T	T
C14: Average ≥ 75	-	-	-	-	-	-	-	-	-	-	-	-	-	F	T
A1: Grade E								X	X	X					
A2: Grade C											X	X	X		
A3: Grade B														X	
A4: Grade A															X
A5: Invalid Input Msg	X	X	X	X	X	X	X								

A test has been designed for each rule:

Test #1 (R1):

Student # AD456
 Exam-1 55
 Exam-2 62
 Project 55

Test #2 (R2):

Student # A20456405
 Exam-1 -10
 Exam-2 62
 Project 55

Test #3 (R3):

Student #	A20456405
Exam-1	110
Exam-2	62
Project	55

Test #4 (R4):

Student #	A20456405
Exam-1	55
Exam-2	-10
Project	55

Test #5 (R5):

Student #	A20456405
Exam-1	55
Exam-2	110
Project	55

Test #6 (R6):

Student #	A20456405
Exam-1	55
Exam-2	62
Project	-10

Test #7 (R7):

Student #	A20456405
Exam-1	55
Exam-2	62
Project	110

Test #8 (R8):

Student #	A20456405
Exam-1	45
Exam-2	62
Project	55

Test #9 (R9):

Student #	A20456405
Exam-1	55
Exam-2	55
Project	55

Test #10 (R10):

Student #	A20456405
Exam-1	55
Exam-2	62
Project	45

Test #11 (R11):

Student #	A20456405
Exam-1	55
Exam-2	62
Project	55

Test #12 (R12):

Student #	A20456405
Exam-1	62
Exam-2	62
Project	55

Test #13 (R13):

Student #	A20456405
Exam-1	62
Exam-2	66
Project	55

Test #14 (R14):

Student #	A20456405
Exam-1	60
Exam-2	68
Project	69

Test #15 (R15):

Student #	A20456405
Exam-1	78
Exam-2	73
Project	86