

1)

a)

EQ1: {first character(a-z,A-Z,\$,_) && all other chars(not white space)}--> VALID
EQ2: {First character not(a-z,A-Z,\$,_) || any other character(white space)}--> INVALID

b)

Test Case #	Partition Tested	Inputs	Expected Output
1	1	_	VALID
2	1	\$Asv1235	VALID
3	2	9bdsm420	INVALID
4	2	yo sup	INVALID
5	2	itsme►	INVALID

2)

a)

b)

EQ1: {1 <= all side lengths <= 200}-->Valid Length
EQ2: {A^2 + B^2 = C^2}-->Right
EQ3: {A=B=C}-->equilateral
EQ4: {A=B!=C || A!=B=C || A=C!=B}-->Iso
EQ5: {A!=B!=C}--> Scalene

Test Case #	Inputs	Expected Output
1	50,50,50	equilateral triangle
2	50,100,50	isosceles triangle
3	1,2,3	scalene triangle
4	4,5,6	right scalene triangle
5	0,300,300	invalid triangle

c)

3)

a)

EQ1: {AngleSum !=360 || less than 4 sides}--> invalid quad
EQ2: {AB=BC=CD=DA && AllAngles=90}--> square
EQ3: {(AB=BC) != (CD=DA) && AllAngles=90} → rectangle
EQ4: {AB=BC=CD=DA && (abc=cda) != (bcd=dab)} → rhombus

EQ5: {at least one side not equal to any other || one angle not equal to any other}
→ other quad

b)

Bugs:

- Will allow a side length of 0 all around for a shape
- Will Allow negative side lengths
- After a rectangle from side lengths 1,0,1,0 the output wont change to rhombus on input 1,1,1,1,60,120,60,120 or square when all are 90
- Allows for input of 0 degrees which would make 2 sides a single side
- putting all angles to 0 except one to 360 does not result in a new output
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