1.The customer needs software to classify a triangle. Its input is a triple of positive integers say x, y and z and the data type for input parameters ensures that these will be integers greater than 0 and less than or equal to 100. The program output may be one of the following words:

[Scalene: Isosceles; Equilateral; Not a triangle]

Design suitable test cases from white box testing perspective and test your program.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Test case ID:123 | | | | | | Assigned date: | | | |
| Module/Project Name:checktriangle | | | | | | Tester:Senthil kumar.M | | | |
| Objective:to check the triangle | | | | | | Validator:Nancy victor | | | |
| No.of test cases:27 | | | | | | Submit date:18/12/2018 | | | |
| Pre-condition:   * Inputs should be in integer * Values should be in [0-100] | | | | | | | | | |
| Test case  number | Test case  description | Test execution steps | Test case inputs | | | Expected results | Actual results | Status | Remark |
| x | y | z |
| 1 | Plan to give input as 50,50,50 | Run checktriangle  Pass inputs | 50 | 50 | 50 | Equilateral triangle | Equilateral triangle | Pass |  |
| 2 | Plan to give input as 50,50,40 | Run checktriangle  Pass inputs | 50 | 50 | 40 | Isosceles triangle | Isosceles triangle | Pass |  |
| 3 | Plan to give input as 50,60,70 | Run checktriangle  Pass inputs | 50 | 60 | 70 | scalene triangle | scalene triangle | Pass |  |
| 4 | Plan to give input as 0,50,50 | Run checktriangle  Pass inputs | 0 | 50 | 50 | Not a  triangle | Not a  triangle | Pass |  |
| 5 | Plan to give input as 50,40,50 | Run checktriangle  Pass inputs | 50 | 40 | 50 | Isosceles triangle | Isosceles triangle | Pass |  |
| 6 | Plan to give input as 40,50,50 | Run checktriangle  Pass inputs | 40 | 50 | 50 | Isosceles triangle | Isosceles triangle | Pass |  |
| 7 | Plan to give input as 0,0,0 | Run checktriangle  Pass inputs | 0 | 0 | 0 | Not a  triangle | Not a  triangle | Pass |  |
| 8 | Plan to give input as /,50,50 | Run checktriangle  Pass inputs | / | 50 | 50 | Not an integer! Try again | Not an integer! Try again | Pass |  |
| 9 | Plan to give input as a,50,50 | Run checktriangle  Pass inputs | a | 50 | 50 | Not an integer! Try again. | Not an integer! Try again. | Pass |  |
| 10 | Plan to give input as 5040,50,50 | Run checktriangle  Pass inputs | 5040 | 50 | 50 | Enter the input between[0-100] | Enter the input between[0-100] | Pass |  |
| 11 | Plan to give input as 50,0,cadc | Run checktriangle  Pass inputs | 50 | 0 | cadc | Not an integer! Try again. | Not an integer! Try again. | pass |  |
| 12 | Plan to give input as 75,75,75 | Run checktriangle  Pass inputs | 75 | 75 | 75 | Equilateral triangle | Equilateral triangle | Pass |  |
| 13 | Plan to give input as 101,50,40 | Run checktriangle  Pass inputs | 101 | 50 | 40 | Enter the input between[0-100] | Enter the input between[0-100] | Pass |  |
| 14 | Plan to give input as 50,50,105 | Run checktriangle  Pass inputs | 50 | 50 | 105 | Enter the input between[0-100] | Enter the input between[0-100] | Pass |  |
| 15 | Plan to give input as 50,asd,50 | Run checktriangle  Pass inputs | 50 | asd | 50 | Not an integer! Try again. | Not an integer! Try again. | Pass |  |
| 16 | Plan to give input as 60,40,60 | Run checktriangle  Pass inputs | 60 | 40 | 60 | scalene triangle | scalene triangle | Pass |  |
| 17 | Plan to give input as 5,5,5 | Run checktriangle  Pass inputs | 5 | 5 | 5 | Equilateral triangle | Equilateral triangle | Pass |  |
| 18 | Plan to give input as 5,4,3 | Run checktriangle  Pass inputs | 5 | 4 | 3 | scalene triangle | scalene triangle | pass |  |
| 19 | Plan to give input as 10,20,25 | Run checktriangle  Pass inputs | 10 | 20 | 25 | scalene triangle | scalene triangle | Pass |  |
| 20 | Plan to give input as 101,101,101 | Run checktriangle  Pass inputs | 101 | 101 | 101 | Enter the input between[0-100] | Enter the input between[0-100] | Pass |  |
| 21 | Plan to give input as 101,101,100 | Run checktriangle  Pass inputs | 101 | 101 | 100 | Enter the input between[0-100] | Enter the input between[0-100] | Pass |  |
| 22 | Plan to give input as 100,100,100 | Run checktriangle  Pass inputs | 100 | 100 | 100 | Equilateral triangle | Equilateral triangle | Pass |  |
| 23 | Plan to give input as 100,95,98 | Run checktriangle  Pass inputs | 100 | 95 | 98 | scalene triangle | scalene triangle | Pass |  |
| 24 | Plan to give input as 95,85,75 | Run checktriangle  Pass inputs | 95 | 85 | 75 | scalene triangle | scalene triangle | Pass |  |
| 25 | Plan to give input as 100,100,0 | Run checktriangle  Pass inputs | 100 | 100 | 0 | Not a  triangle | Not a  triangle | pass |  |
| 26 | Plan to give input as \*,10,10 | Run checktriangle  Pass inputs | \* | 10 | 10 | Not an integer! Try again. | Not an integer! Try again. | Pass |  |
| 27 | Plan to give input as -1,5,5 | Run checktriangle  Pass inputs | -1 | 5 | 5 | Enter the input between[0-100] | Enter the input between[0-100] | pass |  |

Python Code for check triangle:

class triangle:  
  
 def checktriangle():  
 count = 1  
 for i in range(1,30):  
  
 try:  
  
 x = int(input("Enter the value of x:"))  
 y = int(input("Enter the value of y:"))  
 z = int(input("Enter the value of z:"))  
 if((0 <= x <= 100) and (0 <= y <= 100) and (0 <= z <= 100)):  
 if (x == 0 or y == 0 or z == 0):  
 print(str(count) + ".This is Not a triangle")  
 count = count + 1  
 elif (x == y == z):  
 print( str(count) +".This is Equilateral triangle")  
 count = count + 1  
 elif ((x == y != z) or (x == z != y) or (y == z != x)):  
 print(str(count ) + ".This is Isosceles triangle")  
 count = count + 1  
 elif ((x != y != z) or (x != z != y) or (y != z != x)):  
 print(str(count ) + ".This is Scalene triangle")  
 count = count+1  
  
 else:  
 print(count,"Enter the values between 1-100")  
 count+=1  
  
  
 except ValueError:  
 print(count,"Not an integer! Try again.")  
 count+=1  
 continue  
  
triangle.checktriangle()

Output:

C:\Python\python.exe "C:/Users/Senthil kumarMurugan/PycharmProjects/untitled2/triangle.py"

Enter the value of x:50

Enter the value of y:50

Enter the value of z:50

1.This is Equilateral triangle

Enter the value of x:50

Enter the value of y:50

Enter the value of z:40

2.This is Isosceles triangle

Enter the value of x:50

Enter the value of y:60

Enter the value of z:70

3.This is Scalene triangle

Enter the value of x:0

Enter the value of y:50

Enter the value of z:50

4.This is Not a triangle

Enter the value of x:50

Enter the value of y:40

Enter the value of z:50

5.This is Isosceles triangle

Enter the value of x:40

Enter the value of y:50

Enter the value of z:50

6.This is Isosceles triangle

Enter the value of x:0

Enter the value of y:0

Enter the value of z:0

7.This is Not a triangle

Enter the value of x:/

8 Not an integer! Try again.

Enter the value of x:50

Enter the value of y:50

Enter the value of z:a

9 Not an integer! Try again.

Enter the value of x:5040

Enter the value of y:50

Enter the value of z:50

10 Enter the values between 1-100

Enter the value of x:50

Enter the value of y:0

Enter the value of z:cadc

11 Not an integer! Try again.

Enter the value of x:75

Enter the value of y:75

Enter the value of z:75

12.This is Equilateral triangle

Enter the value of x:101

Enter the value of y:50

Enter the value of z:40

13 Enter the values between 1-100

Enter the value of x:50

Enter the value of y:50

Enter the value of z:105

14 Enter the values between 1-100

Enter the value of x:50

Enter the value of y:asd

15 Not an integer! Try again.

Enter the value of x:60

Enter the value of y:40

Enter the value of z:60

16.This is Isosceles triangle

Enter the value of x:5

Enter the value of y:5

Enter the value of z:5

17.This is Equilateral triangle

Enter the value of x:5

Enter the value of y:4

Enter the value of z:3

18.This is Scalene triangle

Enter the value of x:10

Enter the value of y:20

Enter the value of z:25

19.This is Scalene triangle

Enter the value of x:101

Enter the value of y:101

Enter the value of z:101

20 Enter the values between 1-100

Enter the value of x:101

Enter the value of y:101

Enter the value of z:100

21 Enter the values between 1-100

Enter the value of x:100

Enter the value of y:100

Enter the value of z:100

22.This is Equilateral triangle

Enter the value of x:100

Enter the value of y:95

Enter the value of z:98

23.This is Scalene triangle

Enter the value of x:95

Enter the value of y:85

Enter the value of z:75

24.This is Scalene triangle

Enter the value of x:100

Enter the value of y:100

Enter the value of z:0

25.This is Not a triangle

Enter the value of x:\*

26. Not an integer! Try again.

Enter the value of x:-1

Enter the value of y:5

Enter the value of z:5

27 .Enter the values between 1-100

