Week 4 : Programming Assignment 2

The length of three sides are taken as input. Write a C program to find whether a triangle can be formed or not. If not display “This Triangle is NOT possible.” If the triangle can be formed then check whether the triangle formed is equilateral, isosceles, scalene or a right-angled triangle. (If it is a right-angled triangle then only print Right-angle triangle do not print it as Scalene Triangle).

Sample Test Cases

	Input	Output
Test Case 1	10 4 6	Triangle is not possible
Test Case 2	7 6 8	Scalene Triangle
Test Case 3	9 9 9	Equilateral Triangle
Test Case 4	5 12 13	Right-angle Triangle

```c
#include<stdio.h>
int main()
{
    int a,b,c;
    scanf("%d %d %d",&a, &b, &c); /*The length of three sides are entered from the test cases */
```

```c
if(a<(b+c)&&b<(a+c)&&c<(a+b))
    {
        if(a==b&&a==c&&b==c)
        printf("Equilateral Triangle");
          else if(a==b||a==c||b==c)
          printf("Isosceles Triangle");
          else
    if((a*a)==(b*b)+(c*c)||(b*b)==(a*a)+(c*c)||(c*c)==(a*a)+(b*b))
        printf("Right-angle Triangle");
        else if(a!=b&&a!=c&&b!=c)
        printf("Scalene Triangle");
    }
    else
    printf("Triangle is not possible");
}
```