

Lab 4 Flow control (I) – Conditional statements

Please test the correctness of your program in Q1, Q2, Q3 and Q4 on **PASS**.

Q1.

Write a program that reads 3 integer values (> 0) from the user. The 3 values are interpreted as representing the lengths of the three sides of a triangle. The program prints a message saying whether the triangle is **Equilateral** (all sides equal), **Isosceles** (only 2 sides equal), **Scalene** (all sides unequal), or **Impossible** (can't form a triangle). A triangle can be formed only if the sum of the length of *any* 2 sides is greater than the length of the 3rd side and the length of all the sides of the triangle are *positive*.

Expected Output:

Example 1	Example 2
Enter the value of A, B and C: <u>3</u> <u>4</u> <u>5</u> Scalene	Enter the value of A, B and C: <u>3</u> <u>3</u> <u>3</u> Equilateral
Example 3	Example 4
Enter the value of A, B and C: <u>5</u> <u>5</u> <u>2</u> Isosceles	Enter the value of A, B and C: <u>1</u> <u>2</u> <u>10</u> Impossible
Example 5	Example 6
Enter the value of A, B and C: <u>0</u> <u>2</u> <u>10</u> Impossible	Enter the value of A, B and C: <u>1</u> <u>-2</u> <u>10</u> Impossible

Hint-1: If you'd like to check for equality, you should not write something like: `if (A==B==C)`, but instead, you should use the `&&` operator: `if (A == B && B == C)`

Hint-2: The order of checking may affect the complexity of your code (although it still works). You may wish to check for impossible cases first, and identify the scalene case last.

NOTE: Your program MUST follow the EXACT input/output format! Otherwise, you may not pass the test cases even though your calculation is correct.