Write a definition of a method norm that has three double parameters, x, y, and z. The method should return, as a double value, the value of the expression √(x^2 + y^2 + z^2)

Write a boolean-valued method isSquare with a single int parameter, n. The method should return the value true if and only if n is the square of some integer.

Complete the definition of the method digit with header
`public static int digit (int n, int position)`
so that the method returns the value of the digit that is position places from the right in the decimal representation of n. As examples:

- digit(763,0) should return 3
- digit(8574,2) should return 5
- digit(78,4) should return 0

Write a character-valued method convertToGrade that has an int parameter mark. The method should return the grade that corresponds to mark according to the following table.

Mark	Grade
0-49	F
50-59	D
60-69	C
70-79	B
80-100	A
Others	X

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Write a method printTriangle that has a char parameter c and an int parameter n. The method should print a triangular pattern with the perimeter consisting of the character c and the interior (if there is one) consisting of blanks. As an example, the call
printTriangle('*',5);
would produce:

```
*
**
* *
*  *
*****
```

Write a definition of a method leastFactor that has one int parameter, n. If n > 1, the method should return the value of the smallest prime factor of n; otherwise, it should return the value zero.

Write a program that uses leastFactor to find and print all the prime factors of numbers read as input. For example, given input of 12, the program should note that the prime factors are 2, 2, and 3. The program should be interactive, prompting the user for values and processing them until a value less than one is supplied by the user.

Write a method dayNumber that determines the number of days in a year up to and including the current day. The method should have three int parameters: year, month, and day. If the value of any parameter is invalid, the method should print a warning message and return the value zero. The table gives some examples of the action of the method. Accept any non-negative year as being valid. You may want to assume the existence of a method numberOfDays that returns the number of days in a given month of a given year.

yy	mm	dd	dayNumber
2002	1	1	1
2007	12	31	365
2004	3	1	61
2011	3	1	60
2010	15	6	0

Triangles can be classified in a number of ways by considering the relative sizes of either their sides or their angles. Using side classifications, a triangle is equilateral if all sides are equal; it is isosceles if exactly two sides are equal; it is scalene if no sides are equal. Using angle classifications, a triangle is a right triangle if its largest angle is a right angle; it is obtuse if its largest angle is greater than a right angle; it is acute if its largest angle is less than a right angle. If the sides of a triangle are known, Pythagoras' Theorem can be used to classify the triangle as right, obtuse, or acute.

Write a program that will read an arbitrary number of sets of three integers. The program should prompt the user for sets of num- bers and process them until the user submits the numbers 0 0 0. For each set of three numbers, the program should first print the val- ues read. It should then decide whether or not the three numbers could represent the lengths of the sides of a triangle. If the numbers could not represent the lengths of sides of a triangle, an appropriate message should be printed. If they could, then the program should determine and state into which of the above classes the triangle would be placed.

Usage examples:

Provide three side lengths - 0 0 0 to terminate.
3 5 4
Triangle possible: scalene and right.

Provide three side lengths - 0 0 0 to terminate.
5 2 5
Triangle possible: isosceles and acute.

Provide three side lengths - 0 0 0 to terminate.
-7 1 2
Triangle cannot be formed.

Provide three side lengths - 0 0 0 to terminate.
0 0 0
Program was terminated by user.