03/10/23

Q1: Write an algorithm to find the greatest among three numbers (if I compare)

Step 1: START THE PROCESS

Step 2: Read the values of variable A, B and C

Step 3: if A > B then goto step 4 else goto step 5.

Step 4: if A > C the print "A is greater" else print "C is greater".

Step 5: B > C then print "B is greater" else print "C is greater".

Step 6: STOP THE PROCESS.

Q2: Write an algorithm to check whether the given number is positive or negative or zero.

Step 1: START THE PROCESS

Step 2: Read the value of variable "n".

Step 3: Compare n > 0 then print "n is positive" else goto step 4.

Step 4: Compare n < 0 then print "n is negative" else goto step 5.

Step 5: if n == 0 print "n is zero"

Step 6: STOP THE PROCESS.

Q3: Write an algorithm to solve a quadratic eqn. $ax^2 + bx + c = 0$

$$x = \frac{-b \pm \sqrt{(b^2 - 4ac}}{2a}$$

$b^2 - 4ac = 0 \Rightarrow x = -b/2a$

$b^2 - 4ac > 0 \Rightarrow x_1 = -b + \text{Sqrt}(b^2 - 4ac)/2a$

$b^2 - 4ac > 0 \Rightarrow x_2 = -b - \text{Sqrt}(b^2 - 4ac)/2a$

$b^2 - 4ac < 0 \Rightarrow$ roots are imaginary