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!Student Number:12958319

!Creation Date:18/01/2013

!Assignment Number:2\_1

!Purpose: To Find the discriminant of a quadratic equation of the form ax^2 + bx + c with user interaction

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PROGRAM assign\_2\_1

IMPLICIT NONE

!a,b,c are variables - initialised here

!discrim will store the answer

REAL :: a,b,c,discrim,x\_plus,x\_neg

!Initial conditions

a = 0

b = 0

c = 0

WRITE(\*,\*) 'a = what??'

READ(\*,\*) a

WRITE(\*,\*) 'b = what??'

READ(\*,\*) b

WRITE(\*,\*) 'c = what??'

READ(\*,\*) c

discrim = b\*\*2 - 4\*a\*c !To calculate the discriminant

!Calculates the positive and negative solutions to the quadratic equation

x\_plus = (-b + SQRT(discrim))/(2\*a)

x\_neg = (-b - SQRT(discrim))/(2\*a)

!Prints positive and negative solutions with a friendly message

WRITE (\*,\*) "Here is the positive x value : ",x\_plus

WRITE (\*,\*) "Here is the negative x value : ",x\_neg

END PROGRAM

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!Author: Navrit Bal

!Student Number:12958319

!Creation Date:22/01/2013

!Assignment Number:2\_2

!Purpose: To calculate solutions to a quadratic equations, print the results to the screen and to print other results to a file called assign\_2\_2.out

!\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

PROGRAM assign\_2\_2

IMPLICIT NONE

!a,b,c are variables and are initialised here

!discrim will store the answer

REAL :: a,b,c,discrim,x\_plus,x\_neg

!Initial conditions

a = 0

b = 0

c = 0

!Opens assign\_2\_2.out in unit number 99

OPEN(99,FILE='assign\_2\_2.out')

!Gets user input in a reasonably friendly manner

WRITE(\*,\*) 'a = what??'

READ(\*,\*) a

WRITE(\*,\*) 'b = what??'

READ(\*,\*) b

WRITE(\*,\*) 'c = what??'

READ(\*,\*) c

discrim = b\*\*2 - 4\*a\*c !Calculate the discriminant

!Calculates the positive and negative x solution to the quadratic equation

x\_plus = (-b + SQRT(discrim))/(2\*a)

x\_neg = (-b - SQRT(discrim))/(2\*a)

!Prints various useful pieces of information

WRITE (99,\*) "Here are the coefficients of the quadratic equation"

WRITE (99,\*) "a = ",a

WRITE (99,\*) "b = ",b

WRITE (99,\*) "c = ",c

WRITE (99,\*) "Here is the positive x value : ",x\_plus !

WRITE (99,\*) "Here is the negative x value : ",x\_neg !

!Forcefully closes the file followed by halting execution

CLOSE(99)

END PROGRAM

End of week assignment questions

1. End of file (EOF) condition occurs

2. Integer

3. 5 and 6 (for stdin and stdout)

4. a) All positive integer values, month between 1 and 12, days between 1 and 31 depending on the month and finally the year could be any integer - positive or negative. It should also be in a valid date system eg. 31/12/2000

b) Will be a string of characters, at least 1 character

c) Must be more than 0 and a real number