Module main ()

//Declare the necessary variables

//Declare array

Double[] numbers = new Double[20];

//Declaring input variable

Double number;

//Declare i to control while loop

Int i = 1;

//Declare i to control for loop

Int j = 0;

//Declare count to calculate number of elements in array

Double count = 1;

//Declare sum to calculate sum

Double sum = 0;

//Declare average to calculate average

Double average;

//Defining user input and break value

Display "You can enter up to 20 double values(Enter 99999 to stop user input)."

Display "Enter Number: "

Input number

//If statement to display error message if only "99999" was entered

If(number == 99999)

Display "You cannot quit without entering any numbers. Please enter at least one number."

End if

//While loop to gather user input up to 20 numbers

While(number != 99999 && i < numbers.length)

numbers[i] = number

//Finding sum of all numbers in array to calculate average later

sum = sum + number

Display "Enter Number: "

Input number

//If statement to break if "99999" is entered

If(number == 99999)

Break

End if

//Increment i and count for every number added to array

i++

count++

End while

//Equation to calculate average

average = sum / count

//Print header

Display "Number Distance from average"

//For loop to display numbers in array and distance from average

For (j = 1; j < i+1; ++j)

//Math.abs() equation to calculate distance from average as a positive number

Double distance = Math.abs(numbers[j] - average)

Display numbers[j] + " " + distance

End for

End Module