// DESIGN
// 1. Header (centered)
//      Statistics
//      Laboratory 4
//      26 January 2010
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// 2. Request that data be input one at a time by user (positive
//      floating-point numbers) and a non number to be entered to end the program.
// 2.1. Ask for integer
//      Display:
//      "Please enter a set of positive floating-point numbers one at a time to
//      create a data set. To end your data set please press any letter."
// 2.2. Iterate input to continuously allow numbers until a non number is entered
// 2.3. Validate
//      Display:
//      "The character you have entered is not a positive floating-point number or
//      a letter, please rerun program and enter a positive floating-point number"
// 3. Calculate
// 3.1. Find the Minimum number
//      Use a function to find maximum number
// 3.2. Find the Maximum number
//      Use a function to find minimum number
// 3.3. Average
//      average = sumOfInput / countInput
// 3.4. Variance
//      variance =
// 3.5. Standard Deviation
//      stdDeviation = sqrt(variance)
// 3.6. Theoretical average
//      theoreticalAverage = (1/2) * (minimum + maximum)
// 3.7. Theoretical Variance
//      theoreticalVariance = (1/12) * pow((maximum - minimum), 2)
// 3.8. Theoretical standard deviation
//      theoreticalStdDeviation = sqrt(theoreticalVariance)
// 3.9. Difference
//      differenceAverage = average - theoreticalAverage
//      differenceVariance = theoreticalVariance - variance
//      differenceStdDeviation = stdDeviation - theoreticalStdDeviation
//      differenceMaximum = maximum - minimum
//      differenceMinimum = maximum - minimum
// 4. Display results
//      Computed          Theoretical          Difference
//      ----------------  ------------------  ----------------
//      Average: <average> <theoreticalAverage> <differenceAverage>
//      Variance: <variance> <theoreticalVariance> <differenceVariance>
//      Standard Deviation: <stdDeviation> <theoreticalStdDeviation> <differenceStdDeviation>
//      Maximum: <maximum> <Maximum> <differenceMaximum>
//      Minimum: <minimum> <Minimum> <differenceMinimum>
// 5. Exit
//***************************************************************************
// Note: remember to use "<< setprecision (4);" when displaying.