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\* 10.13.15

\* Period A

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\* \*\*\*\*\*Program Description\*\*\*\*\*

\* This program generates 500 random numbers

\* between 1 and 1000, and finds the mean,

\* median, and mode of the numbers.

\* \*\*\*\*\*Variable Dictionary\*\*\*\*\*

\* int a - holds current mode

\* int count - keeps count of information

\* int d - dynamic value in the sorter

\* int generator - holds current generated number

\* double mean - holds the value for the mean

\* double median - holds the value for the median

\* int mode - holds the value for the mode

\* int s - static value in the sorter

\* int sum - holds the sum of all the values

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import javax.swing.JOptionPane;

public class MeanMedianMode

{

public static void main (String args [])

{

int numbers [] = new int [501];

double mean = 0;

double median = 0;

int mode = 0;

generator (numbers);

Mean (numbers, mean);

Median (numbers, median);

Mode (numbers, mode);

} //end of main method

public static void generator (int numbers [])

{

int count = 1;

while (count <= 500) //runs the loop for generating numbers

{

int generator = (int) (Math.random () \* 1000) + 1;

numbers [count] = generator;

count = count + 1;

} //end of generator loop

} //end of generator method

public static double Mean (int numbers [], double mean)

{

double sum = 0;

for (int count = 1; count < numbers.length; count++) //finds the mean of the values

{

sum = sum + numbers [count]; //adds all numbers together

mean = (1.0 \* sum) / numbers.length; //divides sum by number of numbers

}

JOptionPane.showMessageDialog (null, "Mean: " + mean);

return mean;

} //end of mean method

public static double Median (int numbers [], double median)

{

for (int s = 1; s < 7; s++) //starts selection sort of data

{

for (int d = s + 1; d <= 7; d++)

{

if(numbers [s] > (numbers [d]))

{

numbers [0] = numbers [d];

numbers [d] = numbers [s];

numbers [s] = numbers [0];

}

}

}

median = (1.0 \* (numbers [250] + numbers [251])) / 2; //finds median

JOptionPane.showMessageDialog (null, "Median: " + median);

return median;

} //end of median method

public static int Mode (int numbers [], int mode)

{

int counter [] = new int [1001];

for (int a = 0; a < numbers.length; a++)

{

counter [numbers[a]]++;

}

mode = counter.length-1;

for (int a = counter.length-2; a >= 0; a--)

{

if (counter [a] >= counter [mode])

{

mode = a;

}

}

JOptionPane.showMessageDialog (null, "Mode: " + mode);

return mode;

} //end of mode method

} //end of MeanMedianMode class