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\* 9.29.15

\* Period: A

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

\* This program generates 30 random numbers from 0 to 1000, and sorts them from least to greatest.

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

\* int numbers [] - the array for numbers to be saved to

\* int i - int for current minimum value

\* int j - int to be tested against i for new minimum value

\* int temp - holds values temporarily to compare to int i

\* int count - keeps track of how many numbers have been generated and what block is being saved to in the array

\* int count2 - keeps track of how many numbers have been re-saved in the array

\* String unsorted - keeps track of the unsorted numbers

\* String sorted - keeps track of the sorted numbers

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import javax.swing.JOptionPane;

public class InsertionSort

{

public static void main (String args [])

{

int numbers [] = new int [31];

int count = 1;

int count2 = 1;

String unsorted = "";

while (count <= 30)

{

numbers [count] = (int) (Math.random () \* 1000);

unsorted = unsorted + (numbers [count] + " ");

count = count + 1;

}

for (int i = 1; i < numbers.length; i++)

{

int temp = numbers[i];

int j;

for (j = i - 1; j >= 0 && temp < numbers[j]; j--)

numbers[j+1] = numbers[j];

numbers[j+1] = temp;

}

String sorted = "";

while (count2 <= 30)

{

sorted = sorted + (numbers [count2] + " ");

count2 = count2 + 1;

}

JOptionPane.showMessageDialog (null, "Unsorted List:\n" + unsorted + "\nSorted List:\n" + sorted);

}

}