

Euclidean Algorithm Investigations

Investigation #1

Load Evo with *TheEuclideanAlgorithm.ozocode* OzoBlockly program and use a printed copy of *Ozomap for GCD Demo.pdf* to find the GCD for the following pairs of numbers. Your goal is to determine how the Euclidean algorithm works by investigating Evo's output for each of the iterations.

1. 56, 99
2. 85, 51
3. 24, 80
4. 60, 35
5. 43, 43
6. 90, 9

Investigation #2

Use your discovery of how the Euclidean algorithm works from the first investigation to determine the GCD of the following pairs of numbers. Then, check out your calculated GCD's using Evo.

1. 85, 15
2. 53, 97
3. 98, 28
4. 4, 91
5. 37, 89
6. 12, 8

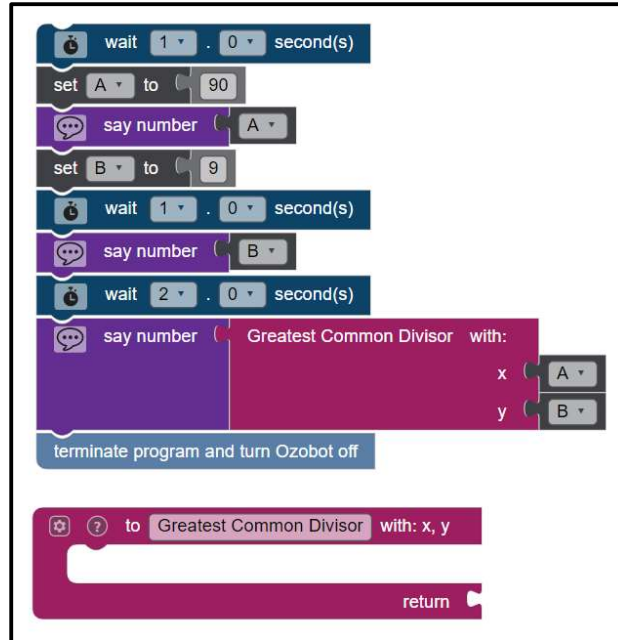
Investigation #3

Here are some pairs of numbers that are larger than those usable with Evo. Find the GCD of each pair by use of the Euclidean algorithm.

1. 198, 231
2. 525, 140
3. 600, 136

Investigation 4 (for Computer Science Students)

Consider the following OzoBlockly program for computing the GCD of a pair of numbers. A and B are any pair of positive integers, for which the GCD is desired.



Create OzoBlockly code for the function “Greatest Common Divisor” that will return the GCD of integers x and y. Test your program on the integer pairs in Investigation #1.