

GreatestCommonDivisor.cpp

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  *****
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2 * PROGRAMMER : Ali Eshghi & Elsa Micklnin
3 * STUDENT ID : 1112261 & 1028119
4 * CLASS      : CS1B
5 * SECTION    : MW 7:30pm
6 * LAB #3     : Functions and arrays
7 * DUE DATE   : 10 September 2019
8
  *****
  *****/
9 #include "header.h"
10
11 /
  *****
  *****
12 * Function : Greatest Common Divisor
13 *
  -----
  -----
14 * This function will read in two integers from main, and find their
    greatest
15 * common divisor using the Euclidian Algorithm. Returns this gcd as
    an int.
16
  *****
  *****/
17
18
19 int GreatestCommonDivisor(int n1,int n2)
20 {
21     int smaller;    // PROCESS - holds the smaller integer
22     int larger;     // PROCESS - holds the larger integer
23     int remainder;  // PROCESS - the remainder of the two
    integers
24     int greatestDivisor;// PROCESS - the greatest divisor of the two
    integers
25     int divResult;   // PROCESS - the division result of two
    integers
26
27     /
  *****
  *****
28     * PROCESS - it gets the greatest divisor of two integers put by
```

GreatestCommonDivisor.cpp

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the user
29      *          by the Euclidian Algorithm
30
31      *****/
32      if(n1 >= n2 && n2 != 0)
33      {
34          larger = n1;
35          smaller = n2;
36      }
37      else
38      {
39          larger = n2;
40          smaller = n1;
41      }
42      do
43      {
44          divResult = larger / smaller;
45          remainder = larger % smaller;
46
47          if (remainder == 0)
48          {
49              greatestDivisor = smaller;
50          }
51          else
52          {
53              larger = smaller;
54              smaller = remainder;
55          }
56      }while(remainder != 0);
57
58      // returns the greatest divisor of two integers
59      return greatestDivisor;
60
61 }
62
63
64
65
```