

pointersWorksheet.c

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1 /*****
2 File name: pointersWorksheet.c
3 Author:   $Author: chadd $
4 Date:    Sep 7, 2011
5 Class:   CS300
6 Assignment: In Class Example
7 Purpose: Demonstrate define, static functions, static variables inside a
8           function. No actual pointers are used.
9 RevisionID: $Id: pointersWorksheet.c 36 2011-09-08 22:59:11Z chadd $
10 *****/
11
12 #include <stdio.h>
13 #include <stdlib.h>
14
15 #define MAX_NUMS 5
16
17 static unsigned isEven (int n);
18
19 /*****
20 Function:   main
21 Description: loops from 1 to MAX_NUMS calling isEven()
22 Parameters: None
23 Returned:  None
24 *****/
25 int main ()
26 {
27     int i;
28
29     for (i = 1; i <= MAX_NUMS; ++i)
30     {
31         if (isEven (i))
32         {
33             printf ("Value = %5u %5d\n", isEven (i), i);
34         }
35     }
36
37     return EXIT_SUCCESS;
38 }
39
40 /*****
41 Function:   isEven
42 Description: This function returns true if n is even, false otherwise.
43             Also, a static value is kept to sum all values of n sent to this
44             function. That static value is display each time the function
45             is called, after that value is updated.
46
47 Parameters: n - the number to check for evenness
48 Returned:  true if n is even, false otherwise
49 *****/
50 static unsigned isEven (int n)
51 {
52     static int sum = 0;
53
54     sum += n;
55     printf ("Sum = %i\n", sum);
56
57     return (n % 2 == 0);
58 }
59
```

