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1  /*-----
2  Copyright (c) 2018 Author: Jagadeesh Vasudevamurthy
3  file: reversetest.cpp
4
5  On linux:
6  g++ reverse.cpp reversetest.cpp
7  valgrind a.out
8
9  -----*/
10
11 /*-----
12 YOU CANNOT CHANGE ANYTHING IN THIS FILE
13 -----*/
14
15 /*-----
16 This file test reverse object
17 -----*/
18
19 /*-----
20 All includes here
21 -----*/
22 #include "reverse.h"
23
24 /*-----
25 All includes here
26 -----*/
27 void testbed() {
28     reverse1 o;
29     const unsigned long a[] =
30         {0,1,10,9,1000,0xFFFFFFFF,0xFFFFFFFF,0xFFFFFFFFD,0xA7FFFF0,1234567,765432} ;
31     const unsigned long e[] =
32         {0,1,1,9,1,0,0,3927694924,257061671,7654321,234567} ;
33     int s = sizeof(a)/sizeof(unsigned long) ;
34     for (int i = 0; i < s; ++i) {
35         unsigned long n = a[i] ;
36         unsigned long b = e[i] ;
37         unsigned long a = o.r(n) ;
38         cout << "n = " << setw(10) << n << " = " << setw(10) << a << " Expected = "
39             << setw(10) << b << endl ;
40         assert(a == b) ;
41     }
42     unsigned long first = o.firstFail() ;
43     cout << "The first long number for which reverse fails = " << first << endl ;
44     unsigned long shouldnotfail = first - 1;
45     unsigned long x = o.r(shouldnotfail) ;
46     assert(x != 0) ;
47     unsigned long shouldfail = first + 1;
48     x = o.r(shouldfail) ;
49     assert(x == 0) ;

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```
47 }
48
49 /*-----
50 main
51 -----*/
52 int main() {
53     testbed();
54     cout << "All reverse tests passed. You are amazing\n" ;
55     cin.get();    // added to stop console from closing (uncomment if needed)
56     return 0 ;
57 }
58
59 #if 0
60 /*
61 n = 0 = 0 Expected = 0
62 n = 1 = 1 Expected = 1
63 n = 10 = 1 Expected = 1
64 n = 9 = 9 Expected = 9
65 n = 1000 = 1 Expected = 1
66 n = 4294967294 = 0 Expected = 0
67 n = 4294967295 = 0 Expected = 0
68 n = 4294967293 = 3927694924 Expected = 3927694924
69 n = 176160752 = 257061671 Expected = 257061671
70 n = 1234567 = 7654321 Expected = 7654321
71 n = 765432 = 234567 Expected = 234567
72 The first long number for which reverse fails = 4294967294
73 All reverse tests passed.You are amazing
74 */
75 #endif
76
77 //EOF
78
```