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1  import static java.lang.System.*;
2  import java.util.Scanner;
3
4  public class FibonacciRunner {
5      public static void main(String[] args) throws Exception {
6          //configuration variables
7          int maxLength = 91;
8
9          //variables
10         boolean valid = true;
11         int lengthOfSequence, choice, choiceLocation, choiceStartLocation,
12         choiceEndLocation;
13         lengthOfSequence = choice = choiceLocation = choiceStartLocation =
14         choiceEndLocation = 0;
15
16         //creating system objects
17         Fibonacci fibonacci = new Fibonacci();
18         Scanner keyboard = new Scanner( System.in );
19
20         //START
21         out.print('\u000C');
22
23         out.println( "Welcome to the Fibonacci Generator" );
24         out.print( "How many numbers in the sequence would you like? " );
25
26         //asks for length of sequence to make
27         while( valid ) { //checks for valid length of sequence
28             try {
29                 lengthOfSequence = keyboard.nextInt();
30
31                 if( lengthOfSequence > 1 && lengthOfSequence < maxLength ) {
32                     fibonacci.createSequence( lengthOfSequence );
33                     valid = false;
34                 } else {
35                     out.println( "You entered a wrong length. Please enter a number
36                     between 1 and " + maxLength );
37                     out.print( "Pick Again: " );
38                 }
39             } catch ( Exception e ) {
40                 out.println( "You entered an " + e + ". Please enter a number between 1
41                 and " + maxLength );
42                 keyboard.next();
43                 out.print( "Pick Again: " );
44             }
45         }
46
47         do {
48             //asks what the user would like to do
49             out.println( "What would you like to do next?" );
50             out.println( "1. Show a single number\n" +
51                 "2. Show a range of numbers\n" +
52                 "3. End\n" );
53             out.print( "Choice: " );
54
55             valid = true;
56             while( valid ) { //checks to see if the user inputed a valid option
57                 try {
58                     choice = keyboard.nextInt();
59
60                     if( !(choice < 4 && choice > 0) ) {
61                         out.println( "You entered a wrong number; please enter 1, 2, or
62                         a 3" );
63                         out.print( "Pick Again: " );
64                     }
65                     else
66                         valid = false;
67                 }
68             }
69         }
70     }
71 }
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62         } catch ( Exception e ) {
63             out.println( "You entered " + e + "; please enter 1, 2, or a 3" );
64             keyboard.next();
65             out.print( "Pick Again: " );
66         }
67     }
68
69     switch( choice ) { //does the users choice
70         case 1: //user wants the number at a location
71             out.print( "What location?" );
72
73             valid = true;
74             while (valid){
75                 try {
76                     choiceLocation = keyboard.nextInt();
77
78                     if( choiceLocation > -1 && choiceLocation <
79                         lengthOfSequence - 1 ) {
80                         valid = false;
81                     } else {
82                         out.println( "You entered a wrong operation. Please
83                             enter a number between 1 and" + lengthOfSequence );
84                         out.print( "Pick Again: " );
85                     }
86                 } catch ( Exception e ) {
87                     out.println( "You entered a wrong operation. Please enter a
88                         number between 1 and" + lengthOfSequence );
89                     keyboard.next();
90                     out.print( "Pick Again: " );
91                 }
92             }
93
94             out.println( fibonacci.getNumAtLocation( choiceLocation ) );
95
96             break;
97         case 2: //user wants the numbers from
98             out.print( "Where would you like to start? " );
99
100             valid = true;
101             while( valid ) {
102                 try{
103                     choiceStartLocation = keyboard.nextInt();
104                     if( choiceStartLocation > 0 && choiceStartLocation <
105                         lengthOfSequence )
106                         valid = false;
107                 } catch( Exception e) {
108                     out.println( "you entered a wrong number; please enter a
109                         number between 1 and " + lengthOfSequence );
110                     keyboard.next();
111                     out.print( "Pick Again: " );
112                 }
113             }
114
115             out.print( "Where would you like to end? " );
116
117             valid = true;
118             while( valid ) {
119                 try{
120                     choiceEndLocation = keyboard.nextInt();
121                     if( !( choiceEndLocation > 0 && choiceEndLocation <
122                         lengthOfSequence ) ) {
123                         out.println( "I am sorry, but this is out of bounds for
124                             the sequence for the sequence you requested" );
125                     } else {
126                         valid = false;
127                     }
128                 }

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121         } catch( Exception e ) {
122             out.println( "you entered a wrong number; please enter a
123                 number between 1 and " + lengthOfSequence );
124             keyboard.next();
125             out.print( "Pick Again: " );
126         }
127     }
128     out.println( fibonacci.getRangeOfNumbers( choiceStartLocation,
129         choiceEndLocation) );
130     break;
131     case 3://exits the program
132         out.println( "Thank You" );
133         exit(0);
134         break;
135     default:
136         out.println( "I am a bad coder" );
137     }
138     out.print( "Again? " );
139
140     valid = true;
141     while( valid ) {
142         try {
143             if( keyboard.nextLine().equalsIgnoreCase("y") )
144                 valid = false;
145             else
146                 exit(0);
147         } catch ( Exception e ) {
148             out.println( "nothing fancy here, just press y" );
149         }
150     }
151     out.print('\u000C');
152 } while( true );
153 }
154 }
```