

TestHarness.java

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1 /** This class is a test class for testing the implementations: BNum, ConBNum
2  * LnkBNumt. It performs a number of tests including add, subtract, clone,
   getDigit
3  * lessThan, getSign and tests of the exceptions.
4  *
5  * *Name: Long Nguyen: Student # 5427059
6  *
7  * @version 1.0 (Mar. 2014) */
8
9
10 package BigNumbers;
11
12 public class TestHarness {
13
14     public static void main(String[] args) {
15
16         //Class BNum A,B,C,D,E,F
17         BNum A,B,C,D,E,F;
18
19         //Creating new Objects of A to ConBNum and B to LinkBNum with number
        1234 and the String "1234"
20         A = new ConBNum("1234");
21         B = new LinkBNum(1234);
22
23         //Adding A to B and returning the values to BNum C
24         System.out.print("Values of 1234 + 1234 = ");
25         C = A.add(B);
26
27         //Printing out the values of C with getDigit Method to check if the
        Exception is working
28         int i = 0; //counter for getDigit
29         while(C.getDigit(i) != -1){
30             System.out.print(C.getDigit(i));
31             i++;
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32     }//end while
33
34     //Subtracting A to B and returning the values to BNum C
35     C = A.sub(B);
36     System.out.print("Values of 1234 - 1234 = ");
37     int x = 0; //counter for getDigit
38     while(C.getDigit(x) != -1){
39         System.out.print(C.getDigit(x));
40         x++;
41     }
42
43     //Testing if it's less then and if it's equal to
44     System.out.println("Is A equal to B "+ A.equals(B));
45     System.out.println("Is A less then to B "+ A.lessThan(B));
46
47     //Testing for invalid input, Throwing exception
48     D = new ConBNum("12D");
49     E = new LinkBNum("12E");
50
51     //Testing the method to getSign of BNum
52     F = new LinkBNum("-12");
53     System.out.println("The the sign of F positive will be 1, negative will be
54     -1 and F is : "+F.getSign());
55     //Testing the clone method, Cloning F to G and printing out the value
56     of BNum G
57     BNum G = F.clone();
58     System.out.print("Cloning G from F.clone method and printing out the
59     value of G" );
60     System.out.print("The values of G is: ");
61     int y = 0; //counter for getDigit
62     while(G.getDigit(y) != -1){
63         System.out.print(G.getDigit(y));
64         y++;
65     }
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63     }
64     System.out.print("The sign of G is : " + G.getSign());
65
66
67
68
69 }
70
71 }
72
```