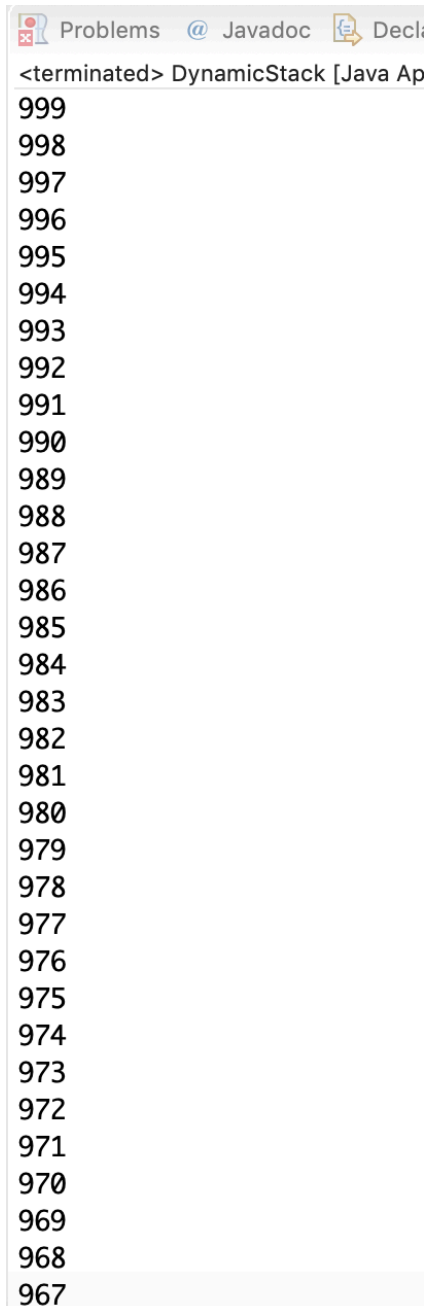


DynamicStack.java

Push 1000 big integer and pop
them one by one.



The screenshot shows an IDE window with tabs for 'Problems', 'Javadoc', and 'Declaration'. The console output displays a sequence of numbers from 999 down to 967, with the prompt '<terminated> DynamicStack [Java Ap' visible at the top.

```
<terminated> DynamicStack [Java Ap
999
998
997
996
995
994
993
992
991
990
989
988
987
986
985
984
983
982
981
980
979
978
977
976
975
974
973
972
971
970
969
968
967
```

```
public static void main(String[] args) {
    // TODO Auto-generated method stub
    DynamicStack test = new DynamicStack();
    for(int i = 0; i<1000; i++){
        test.push(BigInteger.valueOf(i));
    }
    for(int i = 0; i<1000; i++){
        System.out.println(test.pop());
    }
}
```

The result is **correct**.

RedBlackTree.java

```
public static void main(String[] args) {  
  
    RedBlackTree rbt = new RedBlackTree();  
    BigInteger nullInteger = BigInteger.valueOf(0);  
    rbt.insert("var1", BigInteger.valueOf(100));  
    rbt.insert("var2", BigInteger.valueOf(0));  
    //overwrite the previous key,value  
    rbt.insert("var1", BigInteger.valueOf(1000));  
    rbt.levelOrderTraversal();  
    System.out.println(rbt.lookup("var1"));|  
  
}
```

First, push string “var1” as key in to the rbt
Then, push string “var2” as key in to the rbt
Last, overwrite var1 value.

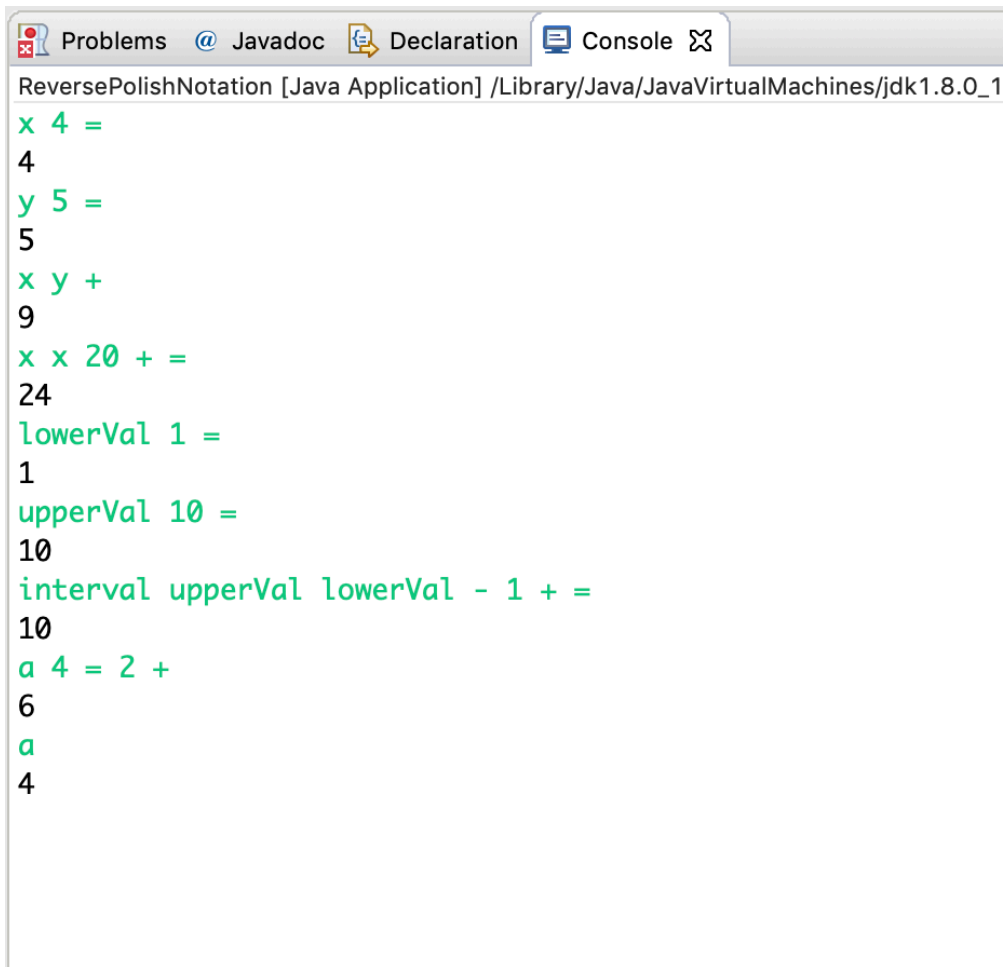
```
<terminated> RedBlackTree (1) [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_151.jdk/Contents/Home/bin/java (Mar 4, 2019,  
[data = var1:Color = Black:Parent = -1: LC = -1: RC = var2]  
[data = var2:Color = Red:Parent = var1: LC = -1: RC = -1]  
value stored in var1 is: 1000  
|
```

ReversePolishNotation.java

First example of successfully compiling

[illegible]

Second Example Successfully compiling



```
ReversePolishNotation [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_1
x 4 =
4
y 5 =
5
x y +
9
x x 20 + =
24
lowerVal 1 =
1
upperVal 10 =
10
interval upperVal lowerVal - 1 + =
10
a 4 = 2 +
6
a
4
```

Third Example:

For error handling part, I throw exception and catch them, print corresponding message, and then halt the program.



```
<terminated> ReversePolishNotation [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_151.jdk/Co
a 1 =
1
a b +
Exception in thread "main" java.lang.Exception: error: no variable b
        at ReversePolishNotation.main(ReversePolishNotation.java:86)
```

```
<terminated> ReversePolishNotation [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_151.jdk/Contents/Home/bin/j
3 4 =
Exception in thread "main" java.lang.Exception: error: 3 not an lvalue
    at ReversePolishNotation.main(ReversePolishNotation.java:254)
```

For large integer input:

[illegible]