Homework 10

```
/**
* Swaps the two given {@code NaturalNumber}s.
*
* @param n1
* the first {@code NaturalNumber}
* @param n2
* the second {@code NaturalNumber}
* @updates n1
* @updates n2
* @ensures n1 = #n2 and n2 = #n1
*/
private static void swapNN(NaturalNumber n1, NaturalNumber n2) {
NaturalNumber temp = new NaturalNumber1L;
temp.copyFrom(n1);
n1.copyFrom(n2);
n2.copyFrom(temp);
}
/**
* Swaps the two given {@code NaturalNumber}s.
*
* @param n1
* the first {@code NaturalNumber}
* @param n2
* the second {@code NaturalNumber}
```

```
* @updates n1
* @updates n2
* @ensures n1 = #n2 and n2 = #n1
*/
private static void swapNN2(NaturalNumber n1, NaturalNumber n2) {
NaturalNumber temp = new NaturalNumber1L;
temp.transferFrom(n1);
n1.transferFrom(n2);
n2.transferFrom(temp);
}
/**
* Squares a given {@code NaturalNumber}.
*
* @param n
* the number to square
* @updates n
* @ensures n = #n * #n
*/
private static void square(NaturalNumber n) {
n.power(2);
}
/**
* Main method.
*
* @param args
```

```
* the command line arguments

*/

public static void main(String[] args) {

SimpleReader in = new SimpleReader1L();

SimpleWriter out = new SimpleWriter1L();

NaturalNumber n1 = new NaturalNumber1L(23);

NaturalNumber n2 = new NaturalNumber1L(45);

NaturalNumber n3 = new NaturalNumber1L(67);

NaturalNumber n4 = new NaturalNumber1L(89);

NaturalNumber n5 = new NaturalNumber1L(89);

swapNN(n1, n2);

System.out.println("swapNN = " + n1 + " " + n2);

swapNN2(n3, n4);

System.out.println("swapNN2 = " + n3 + " " + n4);

square(n5);

System.out.println("square = " + n5);

in.close();

out.close();

}
```