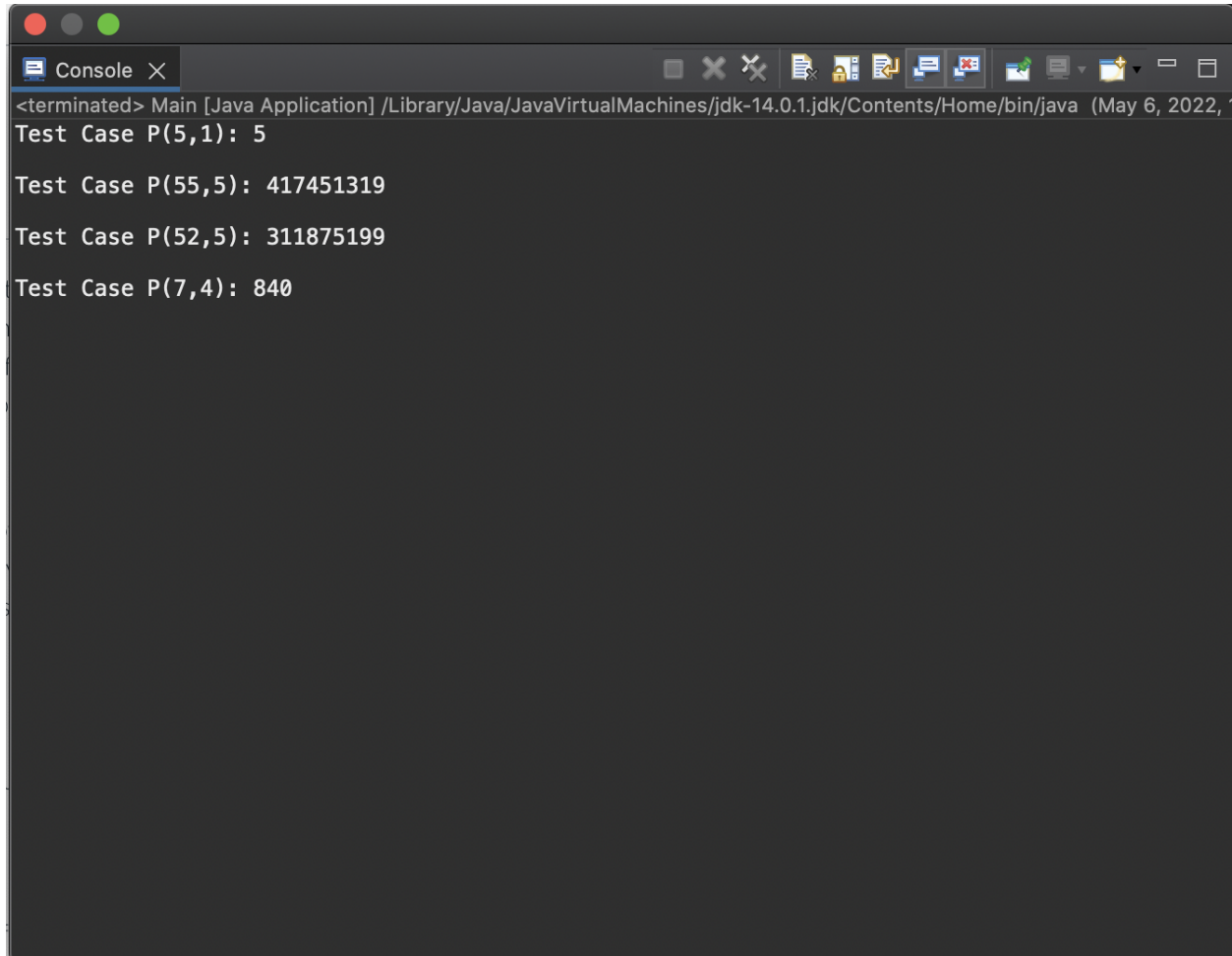


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Instructor: **Craig Niiyama**

QA Document for Assignment 5 – **Recursive Method - Permut**

Test Cases - Console Screenshot:



```
<terminated> Main [Java Application] /Library/Java/JavaVirtualMachines/jdk-14.0.1.jdk/Contents/Home/bin/java (May 6, 2022, 1:10:10 PM)
Test Case P(5,1): 5
Test Case P(55,5): 417451319
Test Case P(52,5): 311875199
Test Case P(7,4): 840
```

The screenshot shows a Java console window with a dark background. The title bar at the top indicates the application is terminated. The console output displays four test cases for a permutation method, each showing the input parameters and the resulting value. The test cases are: P(5,1) resulting in 5, P(55,5) resulting in 417451319, P(52,5) resulting in 311875199, and P(7,4) resulting in 840.

Screenshot of code:

```
1 // Student: Natalia Reeck Zanini
2
3 public class Main
4 {
5     //Permut Function:
6     public static double permut(double n, double r)
7     {
8         //If "n" is lower than "r" it will return "-1".
9         if(n < r)
10         {
11             return -1;
12         }
13
14         //If "n" is equal to "1" than return "n" which is "1".
15         if(n==1.0)
16         {
17             //Returning "n" which in this case is "1"
18             return n;
19         }
20         else if(n == (r+1))
21         {
22             //Here if "n" equals to "r+1" it will call permut(n-1,n-2)
23             //preventing the division by "0" happening.
24             return n*permut(n-1,n-2);
25         }
26         else
27         {
28             //Calling permut(n-1,r)
29             return n/(n-r)*permut(n-1,r);
30         }
31     }
32
33     //Test Cases (Required by assignment and extras)
34     public static void main(String[] args) {
35         System.out.print("Test Case P(5,1): ");
36         System.out.println((int)permut(5,1));
37         System.out.println();
38
39         System.out.print("Test Case P(55,5): ");
40         System.out.println((int)permut(55,5));
41         System.out.println();
42
43         System.out.print("Test Case P(52,5): ");
44         System.out.println((int)permut(52,5));
45         System.out.println();
46
47         System.out.print("Test Case P(7,4): ");
48         System.out.println((int)permut(7,4));
49         System.out.println();
50     }
51 }
```