

Week 7

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P2 Concept Demonstration

Start building an application that utilizes P2 concepts

- static methods
- parameter passing
- multidimensional arrays

Announcements

P2 Teams

- last chance to sign up is Friday by Noon.
- Both get same grade for project.
- How to work together?

Midterm Exam Review

Turn off any recording devices.

No lecture capture.

Hand back exam results.

Exam Wrapper

Walk through some common missed questions.

If you have specific questions or differences, please write them down and I will review.

Today

- Method and Array problems similar to P2
 - Can work in groups of 2 or 3
- Demonstration of debugging with the Eclipse Debugger

Implement createChessBoard method

```
/** Creates 2 dimensional chess board.  
 * @param size the number of both dimensions of the array.  
 * @return A 2 dimensional array of char.  
 */  
public static char [][] createChessBoard( int size) {  
  
    return null;  
}
```

Example method call:

```
char [][] board = createChessBoard( 8);
```

Implement the clearBoard method

```
/** Removes all elements from the board by setting each
 * element to a space (' ').
 */
public static void clearBoard( char [][] board) {

}
```

Example method call:

```
clearBoard( someBoard);
```

Implement the setPiece method

```
/** Sets the specified piece on the chess board in the specified position.
 * @param board The chess board to set.
 * @param piece The character representing the piece.
 * @param row The row for the piece.
 * @param column The column for the piece.
 */
public static void setPiece( char [][] board, char piece, int row, int column) {

}
```

Example method call:

```
setPiece( someBoard, 'K', 0, 4);
```


Debugging with a Debugger

Key	Description
F5	Step Into Method
F6	Step Over Method
F7	Step Out of Method
F8	Resume execution until the next breakpoint

<http://www.vogella.com/tutorials/EclipseDebugging/article.html>

Where is the bug?

```
import java.util.Scanner;
public class Factorial {
    public static int factorial(int n) {
        int result = 1;
        while( n-- > 0) {
            result *= n;
        }
        return result;
    }
    public static void main( String []args) {
        Scanner scnr = new Scanner( System.in);
        System.out.print("Find factorial of what number? ");
        int num = scnr.nextInt();
        int factorial = factorial( num);
        System.out.println( "The factorial of " + num + " is " + factorial);
        scnr.close();
    }
}
```