

# Homework Assignment 2

## Guessing Game with arrays

Write a program that plays a guessing game with the user. (S)he should guess an integer number, called the *secret*, including 0 and 99 that is (!!!!!secretly input by someone else or!!!!) chosen randomly by the computer.

The maximum number of guesses the player is allowed to use is 7. The program gives helpful replies to each guess: “lower” when the guess is too high and “higher” when the guess is too low. When the player guesses right, the program outputs: “Good guess! You won.” and when the maximum number of guesses has been reached, it prints “No more guesses, you lost.”. In both cases the guessing history is printed.

The guessing history consists of:

1. The number of guesses followed by the phrase “guesses:”.
2. For each guess a line that shows how close your guess was. The line consists of 100 symbols, with a **x** at the position of the guess and a **|** at the position of the code. E.g., when the code is 50 and the guess is 48, the line will be:

.....x|.....

## Random Numbers

To be able to get random numbers, put the following line on top of your class, right below the declaration of the Scanner:

```
Random randomGenerator = new Random();
```

Then the expression `randomGenerator.nextInt(n)` will give you a random integer between 0 and *n*, **not including** *n*. So the statement

```
int number = randomGenerator.nextInt( 4 );
```

will store a random number out of the set 0, 1, 2, 3 into the variable `number`.

## Naming Requirements

Make sure your final program adheres to the following rules:

- The declaration of your class should be: `public class GuessingGame.`
- The declaration of your Scanner variable should be: `Scanner inputScanner = new Scanner(System.in);`
- The declaration of your Random variable should be: `Random randomGenerator = new Random();`
- The declaration of your method should be: `public void run()`

## Hints

For testing purposes it can be convenient to temporarily change the assignment to a fixed number. Or to print the random number before the guessing starts.

NB. Please remove this before submitting your program to Peach.

## Example Output

In the following examples (user-)input is preceded by a >.

### 0.0.1 Example 1:

The random number is 50. NB: Input is preceded by a >.

```
Start guessing!
>10
higher
>90
lower
>48
higher
>50
Good guess! You won.
4 guesses:
.....X.....|.....
.....|.....X.....
.....X.....|.....
.....X.....
```

### Example 2

The random number is 0. NB: Input is preceded by a >.

```
Start guessing!
>90
lower
>80
lower
>70
lower
>60
lower
>50
lower
>40
lower
>30
lower
No more guesses, you lost.
7 guesses:
|.....X.....
|.....X.....
|.....X.....
|.....X.....
|.....X.....
|.....X.....
|.....X.....
```