

# CSC 243, Spring 2020, Assignment 1

**Purpose:** Basic Java

**Due:** 11:59pm, Monday, February 3, 2020

## Get the assignment code

These instructions assume that your course git repository is set up. Change into your course repository directory and enter the following commands.

```
git fetch assignments
git checkout assignments/master -- assignment1
git add assignment1
git commit -a
```

This will copy the `assignment1` directory into your working directory, start tracking the files in the `assignment1` directory, and commit those files to your local git repository.

## Assignment Description

Write a Java class named `Assignment1` that has the following methods:

- `public static int checkWinner(int [][] a)`  
This method takes a 2d array representing a tic-tac-toe board and checks if there is a winner. The board representation uses 0 for a blank space, 1 for player 1, and 2 for player 2. The return value of the method must be:
  - -1 if the input is invalid
  - 0 if there is no winner
  - 1 if player one is the winner
  - 2 if player two is the winnerThe input is considered invalid if the array dimensions are too big or too small or if the array contains integer values that are not 0, 1, or 2. There are other conditions that make a board invalid, but you only need to implement the stated invalid conditions.
- `public static void printWinner(int i)`  
This method takes an integer and prints out a message based on the value:
  - 0 – “No winner”
  - 1 – “Player 1 wins”
  - 2 – “Player 2 wins”
  - otherwise – “Invalid”

- `public static void printBoard(int[][] a)`  
This method takes an 2d array of integer values and prints it to the screen. For example,

```
1 0 2
2 1 0
2 1 1
```

Note, there should be no hard-coded values used in this method.

- `public static void main(String[] args)`  
This method must:
  1. Construct an arbitrary instance of a tic-tac-toe board
  2. Print the board
  3. Print the result of calling `checkWinner`

### Turning in the Assignment

To turn in the assignment execute the following git commands:

```
git commit -a
git push origin master
```

Note: the most recent commit before the due date will be considered your official submission.

### Grading Criteria

- Concise, accurate documentation following the CSC Department documentation guidelines
- Correct implementation of the specification

Note: If your code does not compile, then you will receive a failing grade for this assignment. If the submission includes material that was not covered in class and the material is not properly cited, then you will receive a failing grade for this assignment.