AMERICAN UNIVERSITY OF ARMENIA
College of Science and Engineering
CS 120 Introduction to OOP

HOMEWORK 01 (2 points)

Submission Deadline: **Thursday, January 25 2018, before the class at 09:00**
Submission Contact: **lsargsyan@aua.am**
Submission Instructions: Send your written and tested codes as individual ***.java** files or one ***.zip** archive to the indicated above email using your AUA mailbox. Necessarily, include in the subject line your **ID#** and "**HW01**".

Grading:

1. Failure to submit by the stated deadline – **0** points
2. Submission of **UNSTATED COLLABORATIVE** solutions – **0** points
3. Any other types of **ACADEMIC DISHONESTY** – **0** points
4. Submission of **EXPLICITLY STATED COLLABORATIVE** solutions – **1** point for each collaborator
5. Submission of **INDIVIDUALLY** written solutions with significant amount of errors or description of the solutions in words instead of working codes – **1** point
6. Submission of **INDIVIDUALLY** written working codes or solutions with minor deficiencies –**2** points

Problem 1: Consider a tennis tournament with ***n*** players starting. At each stage the players are randomly divided into pairs to play a game. From each pair the winner advances to the next stage and the loser is eliminated. If there are unpaired players, they advance to the next stage without playing a game. At the very last stage only two players remain, and they play the final game. The winner of the final wins the tournament.

Write a Java program that inputs from the console (keyboard) an amount of tennis players entering the tournament and prints the total amount of played games.

Problem 2: Write a Java program that inputs a valid time from the console using three integers: hours – a value within the range from 0 to 23 inclusive, minutes – a value within the range from 0 to 59 inclusive, and seconds – a value within the range from 0 to 59 inclusive. It adds one second and prints hours, minutes and seconds of the obtained time.

Problem 3: Write a Java program that inputs a positive 4-digit integer and checks, if it is a palindrome. A number is called a palindrome, if it reads the same from-left-to-right and from-right-to-left. For example, 1221 is a palindrome, while 1231 – not. The program outputs the number and a string ***is a palindrome*** , if the number is a palindrome, and a string ***is not a palindrome*** – otherwise.