

**CENG 103**  
**Computer Programming 1**  
**HOMEWORK 3**

**Due by 23:55pm, 23.11.2016**

In this homework, you will create an application for playing a modified and simple version of "AdamAsmaca"(Hangman) with numbers. The idea is just to guess numbers, not the correct places. In this application, your game should keep information about Player including the ID of the player, the number of wins (numWin), the number of times game played (playCount) and the maximum level (maxLevel) he/she has reached.

Application should include three methods called main(), adamAsmaca() and generateReport()

Your application should satisfy the requirements given below:

1. Your program should ask the user's ID. (integer ID)
2. Your program should start by displaying a menu as given below:

Enter your choice:

1. Start Game
2. End Game

3. The default value for maxLevel is 1. playCount and numWin should be given default values appropriately so that at the end of the game for a user, your program should display the number of times the user played the game, the maximum level he/she has reached, the number of games she won.

4. If user select "Start Game" option, then the adamAsmaca() method will be called. This method will take the information about Player such as ID, maxLevel, numWin, playCount as arguments. It will start playing the game according to maxLevel field of the Player.

5. There are 3 levels in your program, in Level 1 you will ask a number in 3 digits and the user has **7 guess** chances. In Level 2 you will ask a number in 4 digits and the user has **6 guess** chances. In Level 3 you will ask a number in 5 digits and the user has **5 guess** chances.

6. The number you ask should be displayed as follows: (for four digits) :\*\*\*\*

7. The user will type a digit between 0-9, 0 and 9 included. (**integer**)

- If user enters another number you will print;

"You entered out of boundary!"

8. You will take the digit, and look whether digit exists in your hidden number.
9. If exists display the digit as: e.g. `**0*` **bonus for this part shown at the end.**
10. It is possible to have duplicate digits in a hidden number : e. g. `1*1*`
11. If user could not successfully guess the number at the end of the number of chances defined by his/her level, you will display "You lost the Game!"
12. If she wins, that is correctly guesses the number within the number of guess chances, you will display "You win the Game".
13. In either case of win or lose `adamAsmaca()` method will return.
14. If the user wins, you should increment the `maxLevel` of the player, and update `playCount` and `numWin` accordingly.
15. The `maxLevel` of the game is 4, after 4 you should not increment the level.
16. After a game completed, you will redisplay the menu.
17. If user presses 1 again, this means she will start a new game. Therefore, you will recall `adamAsmaca()` with again the same player.
18. This execution continues until 2 is entered for ending game after a game finished.
19. If user presses 2 at the end of a game, you will call `generateReport()` method. This method will take the information about Player such as ID, `maxLevel`, `numWin`, `playCount` as arguments. The method will display the ID, `numWin`, `maxLevel` and `playCount` of the Player.

```
1.Start Game
2.End Game
Enter your choice: 1
-----LEVEL 1-----
***
Enter your guess: 3
Enter your guess: 4
Enter your guess: 5
5**
Enter your guess: 6
*6*
Enter your guess: 7
**7
You win the game!The generated number is: 567
-----LEVEL 2-----
****
Enter your guess: 4
***4
Enter your guess: 3
*3**
**3*
Enter your guess: 2
Enter your guess: 1
Enter your guess: 6
Enter your guess: 7
7***
You win the game!The generated number is: 7334
-----LEVEL 3-----
*****
Enter your guess: _
```

Example output: Acceptable

### Example Output for Bonus

```
1*1
Enter your guess: 33
You entered out of boundary!
Enter your guess: 22
You entered out of boundary!
Enter your guess: 1
1*1
Enter your guess: 4
141
You win the game!The generated number is: 141
-----LEVEL 2-----
****
Enter your guess: 1
1***
Enter your guess: 5
1***
Enter your guess: 6
1*6*
Enter your guess: 7
1*67
Enter your guess: 4
1467
You win the game!The generated number is: 1467
-----LEVEL 3-----
*****
Enter your guess: 1
1****
Enter your guess: 4
1***4
Enter your guess: 5
1***4
Enter your guess: 3
1*334
Enter your guess: 5
1*334
You lost the game!The generated number was: 16334
-----REPORT-----
The ID is: 123
The number of plays is:3
The number of wins is:2
The level is: 3
1.Start Game
2.End Game
Enter your choice:
```

**Bonus :** If you showed the all known numbers after each guess you will get 10 points bonus.