

## Assignment - Lottery Game

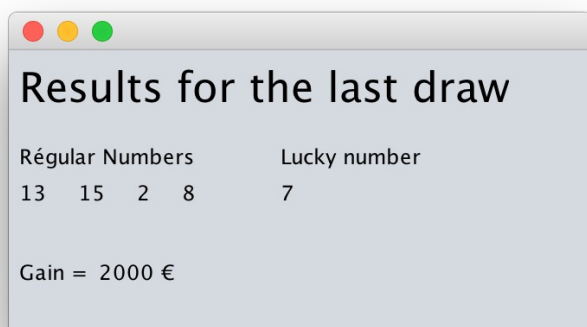
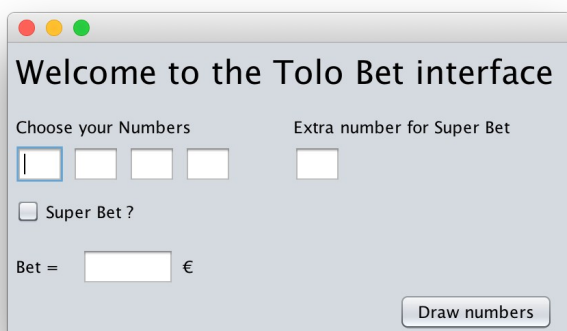
You have to design and implement a program for a lottery game. The principle is as follows: at first, the player chooses numbers and the amount of money she wants to bet; next, the draw takes place and the gain is computed.

The lottery game, named *Tolo*, always draws 4 distinct random numbers between 1 and 20 and one additional number (the lucky number) between 1 and 10.

The application must be able to manage 2 different kinds of bets:

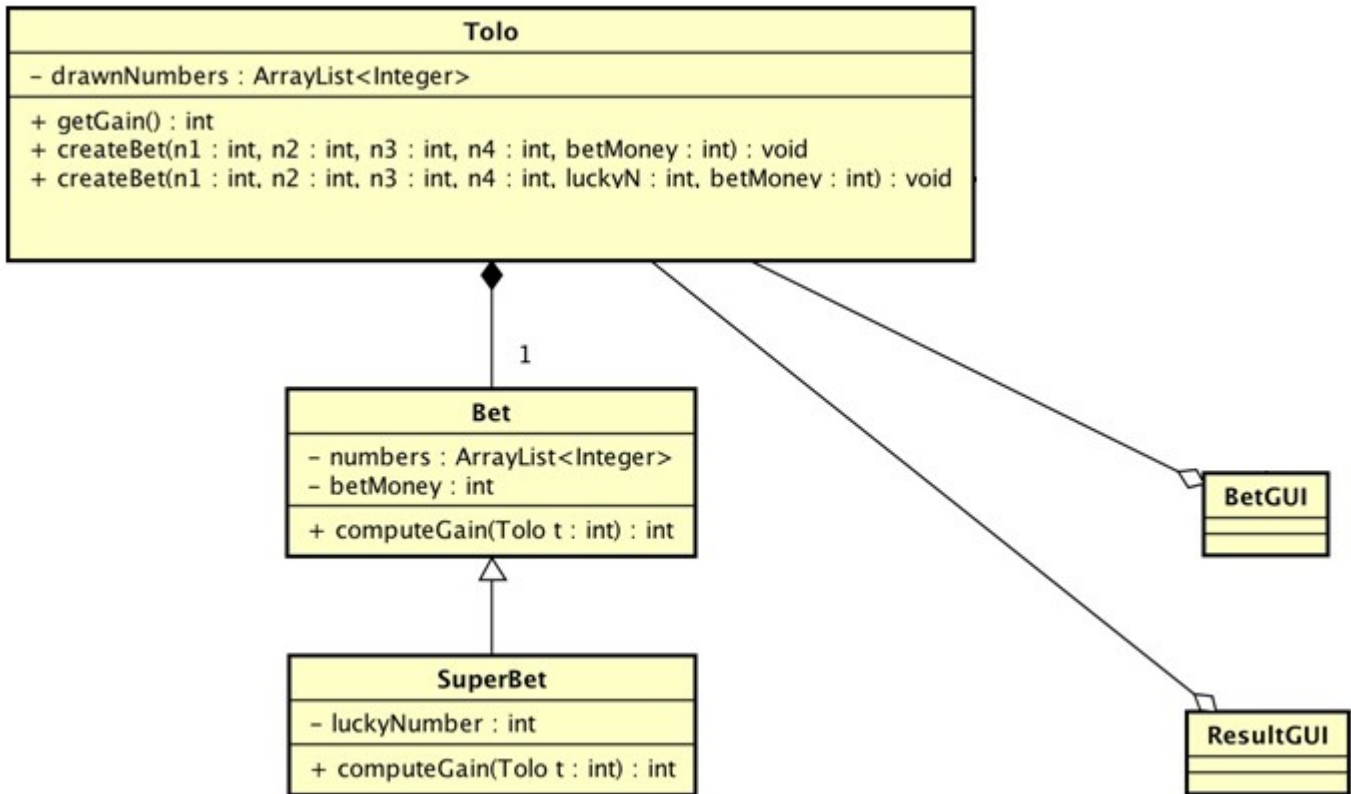
1. The « Bet » game: the player chooses 4 numbers between 1 and 20 and bet some fee  $n$ . Players who have found 3 or 4 good numbers win the following amounts:
  1. if the player has found 3 good numbers, payout is 5 times the amount  $n$  of the bet,
  2. if the player has found 4 good numbers, payout is 50 times  $n$ .
2. The « Super Bet » game: 4 numbers between 1 and 20 and an additional “lucky” number between 1 and 10, are chosen. Payout is now the following:
  1. Payout is identical to the one obtained with the simple Bet if the player does not have found the lucky number
  2. Payout is equal to 5 times the payout obtained with the simple Bet game if the player has found the lucky number.

Graphical User Interfaces (JFrame) are expected: the first one allows the user to choose numbers, bet and launch the Tolo draw, whereas the second one will display the results and the payout (Examples of GUI are provided below). An example of code structure is given through the UML diagram below<sup>1</sup>.



Example of GUI to choose number. The Extra number choice TextField should be visible only if the user choose the Super Bet.

<sup>1</sup> This is only an (uncomplete) proposal. Do not hesitate to modify it.



### **Constraints:**

- An implementation of this exercise should be uploaded on dedicated location on the ENT.
- The subject should be uploaded before **Friday, the 1st of December, 23h59**. This is a ***hard deadline***, no extension will be allowed.
- The exercise should be done alone.
- Part of the grade will be dedicated to the originality of your solution (options, statistics, UX, ...), so be creative.