**JAVA PROJECT**

- Java application name: Online lottery

- Project details:

* To participate, a person bets on a single integer.
* The program then draw a fixed number of ranges of consecutive integers at random.
* A participant’s payoﬀ then is proportional to the number of ranges that contain the participant’s number minus the number of ranges that does not contain it .

- Project implementation:

* First, prompt participants to input a single integer to find the number of ranges it is on.
* The program then generate a fixed number of ranges of integers at random and in a range. The start and end points are stored in separate arrays.
* Sort the list of start and end points.
* Use (l+r)-n to calculate the number of ranges that contain the input integer. To do this, slightly modify binary search to count the ranges whose starting point is lower than the input (called l) and the ranges whose ending point is higher than the input (called r), minus the total number of ranges(called n).
* Calculate the pay out, which is proportional to the number of ranges that contain the participant’s number minus the number of ranges that does not contain it .