A

Write class Lotto where you implement following functions:

- *fun pickNDistinct(range: IntRange, n: Int): List<Int>? // returns a list with n distinct ints from range*
- *fun numDistinct(list: List<Int>): Int // return the number of distinct ints in list*
- *fun numCommon(list1: List<Int>, list2: List<Int>): Int // return the number of ints in both list1 and list2*
- *fun isLegalLottoGuess(guess: List<Int>, range: IntRange = lottoRange, count: Int = n): Boolean // is guess legal? (consists of n different ints from range)*
- *fun checkGuess(guess: List<Int>, secret: List<Int> = secretNumbers): Int // if guess is legal return the number of ints in guess that also appear in secret, otherwise 0*

B

Write function readNDistinct(low: Int, high: Int, n: Int): List<Int> that reads from console a line that contains n distinct integer number ranging from low and high (inclusive), separated by commas.
Hints: use readLine(), .split(), check .toIntOrNull(), .filterNotNull() and .all { ... }

Write function playLotto() that

- *generates (secret) lotto numbers (7 distinct Ints in range from 1 to 40 (inclusive).*
- *reads from the console user guess using readNDistinct() function*
- *prints the number of correctly guessed numbers*
- *lets user either continue with another round or end*

C

Write a function findLotto(lotto: Lotto): Pair<Int, List<Int>> that generates

lotto guesses and uses only function checkGuess to check the guesses.
Do not use the secret numbers in other way either directly or indirectly.
Return the number of steps taken to find the correct lotto
numbers as well as the list of correct numbers as a Pair.

Can you come up with a solution that doesn't need to enumerate all possibilities?

Here is an example run of the app:

```
Give 7 numbers from 1 to 40, separated by commas: 1,2,3
Give 7 numbers from 1 to 40, separated by commas: 1 2 3 4 5 6 7
Give 7 numbers from 1 to 40, separated by commas: 1,2,3,4,5,6,41
Give 7 numbers from 1 to 40, separated by commas: 1,2,3,4,5,6,7,8
Give 7 numbers from 1 to 40, separated by commas: 1,2,3,4,5,6,7
lotto numbers: [1, 2, 3, 4, 5, 6, 7], you got 1 correct
computer guess in 29 steps is [5, 10, 12, 20, 21, 25, 31]
More? (Y/N): Y
Give 7 numbers from 1 to 40, separated by commas: 9,8,7,6,5,4,3
lotto numbers: [3, 4, 5, 6, 7, 8, 9], you got 1 correct
computer guess in 34 steps is [6, 13, 19, 21, 24, 37, 39]
More? (Y/N): N
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