Learning objective:

Given a starting program containing nested structures developing experience breaking the program into separate functions.

Starting program: see `nestingLoopInLoop_starting`

Your mission:

Decompose this one long program into 3 functions. The following outlines the structure for one way in which the decomposition may be done.

First step:

- A `start()` function: contains the main loop

  `while (gameWon == False):`

  `...`

  - This main loop tracks the state of the two subgames via these variables: `guessedNumber`, `guessedColor`.
  - Based on the state of these two variables the check to determine if both subgames have been won (as determined by the state of the above two variables) and if this is the case then the conditions for breaking out of the main loop will be specified (via the '`gameWon`' variable).
  - Also it includes the calls to the two functions described under the next point ('Other functions').

- Other functions
  - There are two functions one for each of the two subgames: guessing the number and guessing the color.
  - At this point they don't have to do much, just display the function name when it's called.

- **Solution to the first step**: `solution1_start_function.py`
  -

Second step (this step does not have to be completed before the next one, you can actually implement the body of either function first).

- The function `processGuessingNumber()`: contains the loop handle guessing the number.

  `while (stillGuessingNum == True):`

  `...`

  This function includes all the code from the starting program that runs the subgame for guessing a number.

- **Solution to the second step**: `solution2_processGuessingNumber`

Third step:

- The function `processGuessingColor()`: contains the loop handle guessing the number.

  ```
  while (stillGuessingColor == True):

      ...
  ```

  This function includes all the code from the starting program that runs the subgame for guessing the color

- **Solution to the third step**: `solution3_processGuessingColor`

Putting it all together:

- This version takes all the features in the starting program and decomposed the code into the 3 three functions.
- **Solution to the final step**: `solution4_completeProgram`

-

Solutions:

- **Solution 1 (start function):** `solution1_start_function.py`
- **Solution 2 (guessing number function):** `solution2_processGuessingNumber.py`
- **Solution 3 (guessing color function):** `solution3_processGuessingColor.py`
- **Complete solution** `nestingLoopInLoop_solution.py`