Discussion Think-Pair-Share Activity:

Write a program that plays the game of "guess the number".
In this game, the computer "thinks" of a random number between 0 and a user-specified upper limit.
The player has to guess this number. The computer will help the player by giving hints on whether the guessed number is less than or greater than the chosen number.

To design this program, let us take a look at the following questions before we start programing.

1. What is the input and output of this program?

   Input: the guessed number, the upperlimit
   Output: the result of guessing

2. How many variables will you use in this program? What are they for? Which type will you use for those variables.
   One integer var to store the generated number
   One integer var to store the guess from the user
   One integer var to count the number of tries
   One integer var to store the upper limit

3. What will you do to keep the user guessing until the correct number?
   Use repetition statements, i.e. while, do-while, or for.

4. You can use the rand() function to get a random number that is between 0~32767. How to generate a random number between 1~N (N < 32767) in C by using the rand() function? (Hint: modulo is your friend!☺)

   randomNumber = rand() % N + 1;

5. Try to design the control flow (algorithm) of this program in pseudo code.
   There could be multiple difference ways to use while, do-while or for statements.
   Just try to make sure the control flow of the program is correct.

   One possible control flow could be

   while(1)
   {
           get the input from the user;
           if(guessed number < randomNumber)
           {
                   too low;
           }
           if(guessed number > randomNumber)
           {
                   too high;
           }
           if(guessed number > randomNumber)
           {
                   guess right;

```
                        break;
            }
      }
```