Number Guessing Game

We need to code! For this exercise, you’ll create a new console project in Visual Studio. This project will be a number guessing game where the program picks a number and allows the user a certain number of attempts to guess it.

# Requirements:

* On startup, the program asks the user to select a difficulty (easy, medium, hard).
  + Easy – range = 1-10, max attempts = 5
  + Medium – range = 1-50, max attempts = 5
  + Hard – range = 1-100, max attempts = 5
  + The ranges are inclusive.
* Once the difficulty selection is made, the program randomly chooses a number and prompts the user for a guess.
  + Your program must validate inputs are valid for the current game (i.e. the input is numeric *and* within the possible range of values to guess for that level of difficulty). If the input is not valid, the program must inform the user and re-prompt until it receives a good response.
  + The program must keep track of the values guessed for the current game. If a user enters a value previously guessed during this round, the user should be informed of the mistake and allowed to make a new guess. If a guess is invalid or is a repeat of a previous guess, the number of attempts left does NOT decrease.
    - The values guessed reset with every new game.
* After each guess, the program informs the user that the attempt is correct, too low, or too high.
* The program should display the number of remaining attempts at all times during the game.
* Once the user runs out of attempts or makes a correct guess, the game ends and declares the results of the game (win or loss, number of attempts made).
* The program should ask the user if they would like to play another game.
  + Yes - The program loops back to the difficulty selection and continues from there.
  + No – The program ends.

# What you’ll need

* Reading from and writing to the Console
* Using the Random class
* Parsing input from string to int
* Using loops
* Using collections (lists or arrays)
* Comparing primitive values

# You should check out

* Enums
* Constants

# Rubric

(15 points) At the start of each game, the user is able to select 1 of 3 difficulties; Easy, Medium, Hard

(10 points) Program picks a number randomly within the appropriate range

(10 points) User is able to enter a guess

(5 points) Program informs user of guess result (correct, too high, too low)

(10 points) Number of attempts is always displayed and properly updated after every guess

(15 points) User input is properly parsed and validated

(5 points) Program gracefully handles bad input without terminating

(10 points) Program displays final results when the game ends (guessed correctly or ran out of attempts)

(15 points) Values guessed are tracked and used to validate new user input

(5 points) Program allows the user to play multiple games without terminating