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using System; //allows me to use all functions in the system library
using System.Collections; //allows me to use all the functions in the
systems.collections library
using System.Collections.Generic; //allows me to use all the functions in the
systems.collections.generic library
public class Program
{
    // This is the starting point of any C# program
    public static void Main()
    {
        // All we do here is start our application (defined below)
        new Application();
    }
}
public class Application // where my main code is written
{
    public Application()
    {
        List<int> guesseslist = new List<int>(); //creates empty list called
guesseslist to store all guesses
        int ai = new Random().Next(0, 101); //generates random number between the
ranges of 0 and 101
        int number_guesses = 0; // creates an integer data type variable with the
value of 0 to store the number of guesses
        Console.WriteLine(ai); // displays the random number so i can test if the
program works by knowing what the number is from the beginning
        int new1 = Ask(); // asks the user to input a number to guess the random
number
        while(true) // while loop to keep asking the user for guesses until criteria
is met
        {
            if (new1 < ai) // condition to test if the guess is less than the random
number
            {
                number_guesses++; // adds 1 to the number of guesses
                guesseslist.Add(new1); // adds that guess to the empty list
                guesseslist.ForEach(Console.WriteLine); //one way of outputting the list by
having each value on each seperate line
                guesseslist.ForEach(Console.Write); // another way of outputting the list
by having them concatenated on the same line
                Console.WriteLine(number_guesses); // outputs the number of guesses so far
                Console.WriteLine("Try guessing higher"); // message for the user that they
need to guess a higher value
                new1 = Ask(); // repeats the question which is reassessed based on criterias
being met for conditions
                if (guesseslist.Contains(new1)) // condition if the list already contains
the guess value
                {

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        number_guesses--; //subtracts 1 from the number of guesses as it means
that one one guess is counted for each different value
    }
}
else if (new1 > ai) //condition to test if the guess is more than the
random number
{
    number_guesses++; // adds 1 to the number of guesses
    guesseslist.Add(new1); // adds that guess to the empty list
    guesseslist.ForEach(Console.WriteLine); //one way of outputting the list by
having each value on each seperate line
    guesseslist.ForEach(Console.Write); // another way of outputting the list
by having them concatenated on the same line
    Console.WriteLine(number_guesses); // outputs the number of guesses so far
    Console.WriteLine("Try guessing lower"); // message for the user that they
need to guess a lower value
    new1 = Ask(); // repeats the question which is reassessed based on criterias
being met for conditions
    if (guesseslist.Contains(new1)) // condition if the list already contains
the guess value
    {
        number_guesses--; //subtracts 1 from the number of guesses as it means
that one one guess is counted for each different value
    }
}
else if (new1 == ai) //condition to test if the guess is equal to the
random number
{
    number_guesses++; // adds 1 to the number of guesses
    guesseslist.Add(new1); // adds that guess to the empty list
    guesseslist.ForEach(Console.Write); // another way of outputting the list
by having them concatenated on the same line
    guesseslist.ForEach(Console.WriteLine); //one way of outputting the list by
having each value on each seperate line
    Console.WriteLine(number_guesses); // outputs the number of guesses so far
    Console.WriteLine("Well done"); // message for the user that they have
guesses the correct value
    Environment.Exit(0); //exits the application as the criteria has been met
}
}
}
public int Ask() //function called Ask to ask the user for a guess
{
    Console.WriteLine("Enter a number to guess please?"); // output for the
user to input a value for the guess
    int guess = Convert.ToInt32(Console.ReadLine()); // stores a value for the
integer called guess

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        return guess; //returns that value so it can be used elsewhere in the
program
    }
}
```