namespace Cows{

Public class CowsAndBulls{

static void Main(string[] args)

{

Program program = new Program();

program.StartGame();

}

void StartGame()

{

Console.WriteLine("Enter the secret string :");

string secret = Console.ReadLine();

secret = secret.ToLower();

bool ans = false;

do

{

Console.WriteLine("Enter the guess string :");

string guess = Console.ReadLine();

guess = guess.ToLower();

ans = CowsAndBullsGame(secret, guess);

} while (ans != true);

Console.WriteLine("Correctly guessed !! You have won");

}

/// <summary>

/// it checks whether the user has won or not

/// </summary>

/// <param name="secret"></param>

/// <param name="guess"></param>

/// <returns>return the hint for next execution and whether the user has won the game or not</returns>

bool CowsAndBullsGame(string secret, string guess)

{

if(guess.Length != secret.Length)

{

Console.WriteLine("Please enter a valid string length!!");

return false;

}

int[] secretarray = new int[26];

int[] guessarray = new int[26];

int cows = 0;

int bulls = 0;

for(int i = 0; i < secret.Length; i++)

{

int s = secret[i] - 'a';

int g = guess[i] - 'a';

if(s == g)

{

cows++;

}

else

{

secretarray[s]++;

guessarray[g]++;

}

}

for (int i = 0; i < 26; i++)

{

bulls += Math.Min(secretarray[i], guessarray[i]);

}

Console.WriteLine($"COWS : {cows} and BULLS : {bulls}");

return (cows == 4 && bulls == 0) ? true : false;

}

}

