Computer science & Technology

PYTHON WORKSHOP

Mini Project

COWS AND BULLS PROBLEM

Submitted by: Submitted to:

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Question:

Create a project that will play cows and bulls game with the user. The game works like this: Randomly generate a four bdigit number. Ask the user to guess a four digit number. For every digit guessed correctly in correct place, they have a "cow". For every digit guessed correctly is a "bull". Every time the user makes a guess, tell them how many cows and bulls they have. Once the user guesses the correct number, the game is over. Keep the track of number of guesses user makes throughout the game and tell the user at the end.

code

```python
import random

number = []
attempts = 0


def MakeNumber():
    for i in range(4):
        x=random.randrange(0,9)
        number.append(x)
    if len(number)>len(set(number)):
        number.clear()
        MakeNumber()


def PlayGame():
    global attempts
    if attempts == 0:
        MakeNumber()
    attempts += 1
    cows = 0
    bulls = 0
#     print(number)
    choice = input("please enter a four digit number")
    guess=[]
    guess1=[]
    for i in range(4):
        guess.append(int(choice[i]))
    for i in range(4):
        if guess[i] == number[i] :
            cows += 1
        elif guess[i] != number[i] and guess[i] in number :
            bulls += 1
        else:
            continue
    print("bulls: ",bulls)
```

```python
    print("cows: ",cows)
    if (cows == 4):
        print("YOU WON AFTER ",attempts," ATTEMPTS!!!")
    else:
        PlayGame()


PlayGame()
```

OUTPUT

```
please enter a four digit number8751
bulls:  2
cows:  0
please enter a four digit number8000
bulls:  0
cows:  0
please enter a four digit number7000
bulls:  0
cows:  0
please enter a four digit number5000
bulls:  0
cows:  1
please enter a four digit number5100
bulls:  0
cows:  2
please enter a four digit number5143
bulls:  0
cows:  3
please enter a four digit number5146
bulls:  0
cows:  4
YOU WON AFTER  7  ATTEMPTS!!!
```

THANKS FOR PLAYING THE GAME