Python mini-project



Name of student: **Vedant Balasaheb kulkarni**

Enrollment no: **197032**

Branch: **Information Technology**

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Name of college: **Government Polytechnic Aurangabad**

Subject for project: **number guessing game using all basic concepts.**

**Project is done individually and guided by prof. M.B Dahiwal.**

**Aim:**

Design a mini project using all concepts in python.

**Instructions:**

* In this game we will be provided with a range of numbers by the user.
* Then automatically the system will select a number from the ranging numbers.
* After that the user or player of game will be provided with limited chances to guess the precise number chosen by system.
* If player selects lower number than the one which is selected by system, then it will show retry message.
* If player selects greater number than the one selected by system, then it will show you guessed too large and displays retry message.
* If player’s guessed number matches with the system’s guessed number then it will print congratulations message and program will be terminated.
* Also when the number of guesses is over then it will display “you lost” message.

Let us see algorithm for creating such game**:**

* User inputs the **lower bound** and **upper bound** of the range.
* The compiler generates a random integer between the range and store it in a variable for future references.
* For repetitive guessing, a while loop will be initialized.
* If the user guessed a number which is greater than a randomly selected number, the user gets an output “*Try Again! You guessed too high*“
* Else If the user guessed a number which is smaller than a randomly selected number, the user gets an output “*Try Again! You guessed too small”*
* And if the user guessed in a minimum number of guesses, the user gets a “*Congratulations!* ” Output.
* Else if the user didn’t guess the integer in the minimum number of guesses, he/she will get “*Better Luck Next Time!*” output.

Program for implementing the game::

import random

import math

lower = int(input("Enter Lower bound:- "))

upper = int(input("Enter Upper bound:- "))

x = random.randint(lower, upper)

print("\n\tYou've only ",

       round(math.log(upper - lower + 1, 2)),

      " chances to guess the integer!\n")

count = 0

while count < math.log(upper - lower + 1, 2):

    count += 1

    guess = int(input("Guess a number:- "))

    # Condition testing

    if x == guess:

        print("Congratulations you did it in ",

              count, " try")

        break

    elif x > guess:

        print("You guessed too small!")

    elif x < guess:

        print("You Guessed too high!")

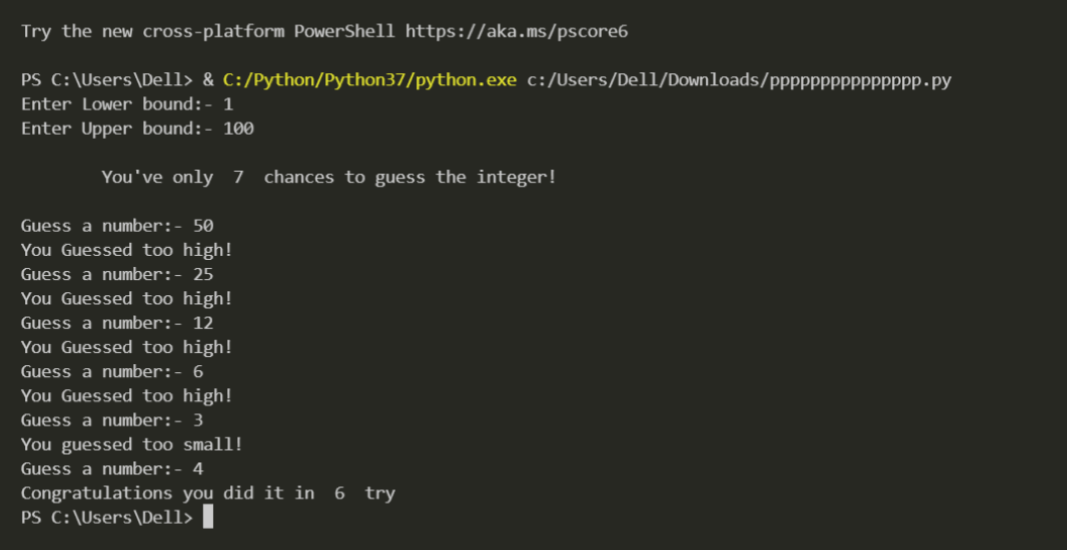
if count >= math.log(upper - lower + 1, 2):

    print("\nThe number is %d" % x)

    print("\tBetter Luck Next time!")

After running above code It will generate the output like this:

**Output:**

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