NUMBER GUESSING GAME

AIM:

Create a python program for a number guessing game where the user tries to guess a randomly chosen number within a defined range, receiving hints after each guess to guide them towards the correct answer .

OBJECTIVES:

STEP 1 : User inputs the lower bound and upper bound of the range.

STEP 2 : The compiler generates a random integer between the range and store it in a variable for future references.

STEP 3 : For repetitive guessing, a while loop will be initialized.

STEP 4 : 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“

STEP 5 : 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”

STEP 6 : And if the user guessed in a minimum number of guesses, the user gets a “Congratulations! ” Output.

STEP 7 :Else if the user didn’t guess the integer in the minimum number of guesses, he/she will get “Better Luck Next Time!” outputs.

CODING OF THE PROGRAM :

import random

import math

# Taking Inputs

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

# Taking Inputs

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

# generating random number between

# the lower and upper

x=random.randint(lower, upper)

print("\n\tyou've only",

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

"changes to guess the integer!\n")

# initializing the number of guesses.

count = 0

# for calculation of minimum number of

# guesses depends upon range

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

count += 1

# taking guessing number as input

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

# condioning testing

if x == guess:

print("Congratulations you did it in ",

count, " try")

# once guessed, loop will break

break

elif x > guess:

print("You Guessed too small!")

elif x < guess:

print("You Guessed too high!")

# If guessing is more than required guesses,

# shows this output.

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

print("\nThe number is %d" % x)

print("\tBetter Luck Next time!")

# Better to use this source code on pycharm!

OUTPUT OF THE PROGRAM: