**NUMBER GUESSING GAME IN PYTHON**

**AIM** **:** To Create a Number Guessing game in python

Programming.

**OBJECTIVES :**

1. **Import the random**: This module is used to generate random numbers, which will be used to set the target number for the user to guess.
2. **Define the guess\_the\_number function:** This function encapsulates the entire number guessing game.
3. **Generate a random number between 1 and 100:** The randint function from the random module is used to generate a random integer in the specified range (1 to 100 in this case).
4. **Print welcome message:** These lines print a welcome message to the user, informing them about the game and the range of numbers.
5. **Initialize attempts counter:** This variable will be used to keep track of the number of attempts the user makes to guess the correct number.
6. **Start the game loop with while True:** This creates an infinite loop that will continue until the user guesses the correct number and breaks out of the loop.
7. **Get user input for the guess:** This line takes user input for their guess and converts it to an integer using int().
8. **Increment the attempts counter:** Each time the user enters a guess, the attempts counter is incremented.
9. **Check if the guess is correct:** If the user's guess matches the randomly generated number, a congratulations message is printed, and the loop is broken out of.
10. **Check if the guess is too low or too high:** If the user's guess is not correct, these lines provide feedback to the user on whether the guess was too low or too high.
11. **Call the guess\_the\_number function to start the game:** This line actually calls the function, initiating the number guessing game.
12. **Top of Form**

**SOURCE CODE :**

import random

def guess\_the\_number():

  number=random.randint(1,100)

  print("Welcome To The Number Guessing Game! ")

  print("I have selected a random number between 1 to 100. Try to guess it!")

  attempts = 0

  while True:

    guess = int(input("Enter your guessing number :"))

    attempts += 1

    if guess == number:

      print(f"congratulations! you guessed the number in {attempts} attempts.")

      break

    elif guess < number:

      print("Too low! Try again.")

    else:

      print("Too high! Try again.")

guess\_the\_number()

**OUTPUT :**

Welcome To The Number Guessing Game!

I have selected a random number between 1 to 100. Try to guess it!

Enter your guessing number :50

Too low! Try again.

Enter your guessing number :90

Too high! Try again.

Enter your guessing number :70

Too low! Try again.

Enter your guessing number :75

Too high! Try again.

Enter your guessing number :72

Too high! Try again.

Enter your guessing number :71

congratulations! you guessed the number in 6 attempts.

**CONCLUSION :**

This Python program creates a number guessing game where the player is prompted to guess a randomly selected number between 1 and 100. The game provides feedback on each guess, indicating whether the guess is too low or too high. The player continues to guess until they correctly identify the randomly chosen number. After a successful guess, the program congratulates the player and reveals the number of attempts it took to arrive at the correct answer.