AI-Based Number Guessing Game

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Introduction-

The number guessing game is a simple console-based game where the player attempts to guess a randomly generated number between 1 and 100. The game provides feedback on whether the guessed number is too high, too low, or correct. The purpose of this game is to demonstrate basic programming concepts, such as loops, conditionals, and user input handling, in a fun and interactive way.

Methodology-

To create the number guessing game, we used the Python programming language. The game follows these steps:

1. Import the random module to generate a random number.

2. Define the guess_number function to contain the game logic.

3. Generate a random number between 1 and 100.

4. Use a while loop to repeatedly prompt the user for their guess.

5. Provide feedback on whether the guess is too high, too low, or correct.

6. Congratulate the user when the correct number is guessed.

7. Tools and Libraries Used:

   - Python: Programming language used to develop the game.

   - Random Module: Used to generate a random number.

Code-

```python
import random   #import 'random' file to randomly generate numbers


def guess_number():
    print("Welcome to the Number Guessing Game!")
    number_to_guess = random.randint(1, 100)   #random number generated between 1 to 100
    number_of_attempts = 0
    user_guess = 0


    #code to guess a number
    while user_guess != number_to_guess:    #loop will run till the we get our number
        user_guess = int(input("Enter your guess (between 1 and 100): "))
        number_of_attempts += 1   # after every iteration it will +1


        # condition check
        if user_guess < number_to_guess:
            print("Your number is low! Try again.")
        elif user_guess > number_to_guess:
            print("Your number is high! Try again.")
        else:
            print(f"Congratulations! You guessed the number in {number_of_attempts} attempts.")


guess_number()
```

Output-

```
Welcome to the Number Guessing Game!
Enter your guess (between 1 and 100): 50
Your number is low! Try again.
Enter your guess (between 1 and 100): 75
Your number is low! Try again.
Enter your guess (between 1 and 100): 87
Your number is low! Try again.
Enter your guess (between 1 and 100): 95
Your number is low! Try again.
Enter your guess (between 1 and 100): 99
Your number is high! Try again.
Enter your guess (between 1 and 100): 97
Your number is high! Try again.
Enter your guess (between 1 and 100): 96
Congratulations! You guessed the number in 7 attempts.
```

Credits-

Image 1 (Kiet Logo) taken from-

https://kietalumni.com/joinkaa.php

o   Image 2 Screenshot of code taken from-
https://colab.research.google.com/drive/1JyTZMcQ0gV119w_d39mO4VXvToxODxfF
#scrollTo=v2S8MGkCgtQG