# AI-Based Number Guessing Game

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Subject: Artificial Intelligence (AI)

## Introduction

The AI-Based Number Guessing Game is a fun and engaging project designed to test a player's ability to guess a randomly generated number. The game incorporates different difficulty levels to enhance the challenge and excitement.

## Features

✅ Multiple difficulty levels (Easy, Medium, and Difficult).
✅ Intelligent hints based on the player's guesses.
✅ Motivational messages depending on performance.
✅ Encourages strategic thinking and improves logical skills.

## Code Implementation

```
import random


# Greeting message

print("🎯 Welcome to the Number Guessing Game! 🎯")


# Difficulty level selection

print("Select Difficulty Level:")

print("1. Easy (1-100)")

print("2. Medium (1-500)")

print("3. Difficult (1-1000)")


difficulty = int(input("Enter your choice (1/2/3): "))


# Number range based on difficulty

if difficulty == 1:

    number = random.randint(1, 100)

    max_attempts = 10
```

```
    print("🔹 Easy Mode: Guess the number between 1 to 100")
elif difficulty == 2:
    number = random.randint(1, 500)
    max_attempts = 15
    print("🔹 Medium Mode: Guess the number between 1 to 500")
elif difficulty == 3:
    number = random.randint(1, 1000)
    max_attempts = 20
    print("🔹 Difficult Mode: Guess the number between 1 to 1000")
else:
    print("❌ Invalid choice. Please restart the game.")
    exit()

# Instructions
print(f"You have {max_attempts} attempts to guess the correct number. Good Luck! 🍀")

# Attempt tracker
attempts = 0

# Game loop
while attempts < max_attempts:
    attempts += 1
    guess = int(input(f"Attempt {attempts}/{max_attempts} - Enter your guess: "))

    if guess == number:
        if attempts <= 5:
```

```
            print(f"🎯 Brilliant!! You guessed it in just {attempts} attempts! 🚀")
        elif attempts <= 10:
            print(f"🎉 Great Job!! You guessed it in {attempts} attempts. 👍")
        else:
            print(f"✅ You guessed it in {attempts} attempts. Good effort! 😊")
        break
    elif abs(guess - number) <= 10:
        print("🔥 Very close! But try again.")
    elif abs(guess - number) <= 20:
        print("✅ Close! But try again.")
    elif guess < number:
        print("📈 Too low! Try a higher number.")
    else:
        print("📉 Too high! Try a smaller number.")

# Game over message
if attempts == max_attempts:
    print(f"❌ Game Over! The correct number was {number}. Better luck next time! 🍀")
```

# Output

```
🎯 Welcome to the Number Guessing Game! 🎯
Select Difficulty Level:
1. Easy (1-100)
2. Medium (1-500)
3. Difficult (1-1000)
Enter your choice (1/2/3): 2
 🔹 Medium Mode: Guess the number between 1 to 500
You have 15 attempts to guess the correct number. Good Luck! 🍀
Attempt 1/15 - Enter your guess: 400
📉 Too high! Try a smaller number.
Attempt 2/15 - Enter your guess: 123
📈 Too low! Try a higher number.
Attempt 3/15 - Enter your guess: 200
📈 Too low! Try a higher number.
Attempt 4/15 - Enter your guess: 260
📉 Too high! Try a smaller number.
Attempt 5/15 - Enter your guess: 230
🔥 Very close! But try again.
Attempt 6/15 - Enter your guess: 234
🔥 Very close! But try again.
Attempt 7/15 - Enter your guess: 238
🔥 Very close! But try again.
Attempt 8/15 - Enter your guess: 240
🔥 Very close! But try again.
Attempt 9/15 - Enter your guess: 227
🔥 Very close! But try again.
Attempt 10/15 - Enter your guess: 226
✅ Close! But try again.
Attempt 11/15 - Enter your guess: 245
🔥 Very close! But try again.
Attempt 12/15 - Enter your guess: 248
✅ Close! But try again.
```

## Conclusion

This project demonstrates how Python's `random` module can be used to create engaging games that enhance logical reasoning and decision-making skills. The game encourages players to analyze hints carefully and make calculated guesses.

## References

1. Python Official Documentation
2. Bikki Gupta Sir