PYTHON MINI PROJECT

(NUMBER GUESSING GAME)

OVER VIEW

The game randomly selects a number between 1 to 50. The player chooses a difficulty level ('easy' or 'hard'), Which determines the number of attempts they get to guess the number. The game provides feedback on whether the player's guess is too high, too low, or correct. The player continues guessing until they either guess correctly or guess out of the attempts.

OBJECTIVE

Develop a number guessing game where the player has to guess a randomly chosen number between 1 and 50. The game should offer two levels of difficulty: 'easy' with 10 attempts and 'hard' with 5 five attempts. The game should provide feedback on each guess, indicating whether the guess was too high, too low or correct, and should track the number of remaining attempts. If the player fails to guess the number within allotted attempts, the game should notify player of their loss and reveal the correct number.

DETAILED REQUIRMENTS

- **Random number generation: The game should generate a random number between 1 to 50.**
- **Difficulty levels: easy level (10 attempts), hard level (5 attempts).**
- **User interaction: Prompt the user to chose a difficulty level, Prompt the user to guess the number.**

- **Feedback Mechanism: Inform the user if their guess is too high, too low, or correct.**
- **Attempt Tracking: Display the number of remaining attempts after each guess.**
- **End game conditions: If the user guess the number correctly, display a success message and end the game.**
  If the user runs of attempts, display a failure message and revel the correct number.

CONCLUTION

The number guessing game is a fun and interactive way to practice Python Programming Fundamentals, including random number generation, user input handling, and function usage. It demonstrates how functions can modularize code and improve readability and maintainability. Additionally it provides a simple example of game logic and user interaction in Python.

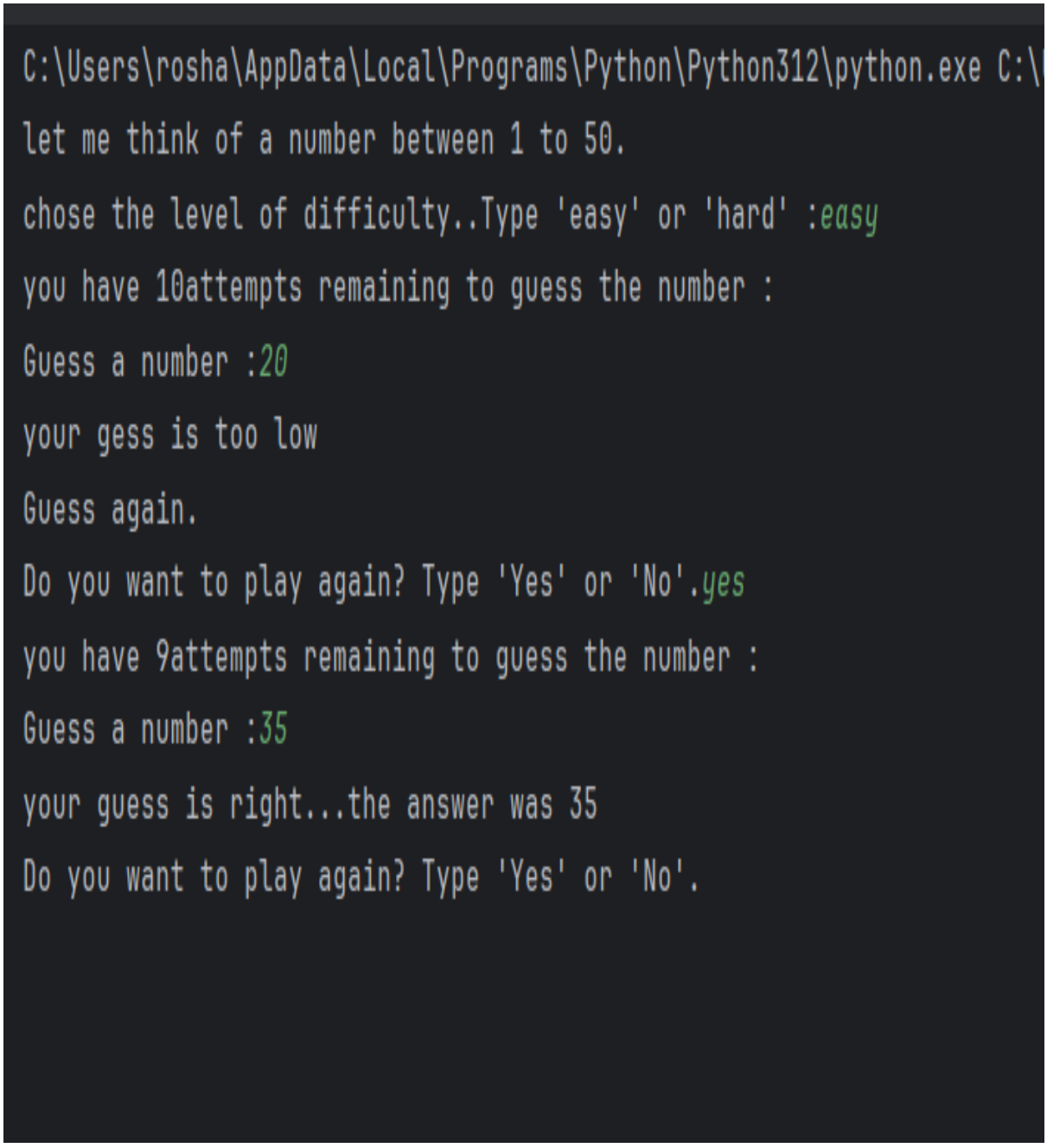
The project report summarizes the structure, features and usage of the number guessing game program highlighting its functionality and educational value in learning Python program concepts.

```python
import random

EASY_LEVEL_ATTEMPTS= 10
HARD_LEVEL_ATTEMPTS= 5

# usage1

def set_difficulty(level_chosen):
    if level_chosen == 'easy':
        return EASY_LEVEL_ATTEMPTS
    else:
        return HARD_LEVEL_ATTEMPTS

# usage 2

def check_answer (guessed_number,answer,attempts):
    if guessed_number < answer:
        print("your gess is too low")
        return attempts - 1
    elif guessed_number > answer:
        print("your answer is too high")
        return attempts - 1
    else:
        print(f"your guess is right...the answer was {answer}")
        return 0

def game():
    print("let me think of a number between 1 to 50.")
    answer = random.randint(1,50)
    level = input("chose the level of difficulty..Type 'easy' or 'hard' :").lower()
    attempts = set_difficulty(level)
    guessed_number = None

    while attempts > 0 and guessed_number != answer:
        print(f"you have {attempts}attempts remaining to guess the number :")
        try:
            guessed_number = int(input("Guess a number :"))
            if guessed_number < 1 or guessed_number > 50 :
                print("please enter a number between 1 and 50")
                continue
        except ValueError:
            print("Invalid input. please enter a number.")
            continue

        attempts = check_answer(guessed_number,answer,attempts)
        if attempts == 0 and guessed_number != answer:
            print(f"you are out of guess..you Lose ! The correct number was {answer}.")
        elif guessed_number != answer:
            print("Guess again.")

        play_again = input("Do you want to play again? Type 'Yes' or 'No'.").lower()
        if play_again == 'Yes':
          game()
game()
```

OUTPUT 1:

```
C:\Users\rosha\AppData\Local\Programs\Python\Python312\python.exe C:\Use
let me think of a number between 1 to 50.
chose the level of difficulty..Type 'easy' or 'hard' :hard
you have 5attempts remaining to guess the number :
Guess a number :30
your answer is too high
Guess again.
Do you want to play again? Type 'Yes' or 'No'.yes
you have 4attempts remaining to guess the number :
Guess a number :25
your gess is too low
Guess again.
Do you want to play again? Type 'Yes' or 'No'.yes
you have 3attempts remaining to guess the number :
Guess a number :28
your answer is too high
Guess again.
Do you want to play again? Type 'Yes' or 'No'.yes
you have 2attempts remaining to guess the number :
Guess a number :40
your answer is too high
Guess again.
Do you want to play again? Type 'Yes' or 'No'.yes
you have 1attempts remaining to guess the number :
Guess a number :26
your guess is right...the answer was 26
Do you want to play again? Type 'Yes' or 'No'.
```

OUTPUT 2:


C:\Users\rosha\AppData\Local\Programs\Python\Python312\python.exe C:\
let me think of a number between 1 to 50.
chose the level of difficulty..Type 'easy' or 'hard' :easy
you have 10attempts remaining to guess the number :
Guess a number :20
your gess is too low
Guess again.
Do you want to play again? Type 'Yes' or 'No'.yes
you have 9attempts remaining to guess the number :
Guess a number :35
your guess is right...the answer was 35
Do you want to play again? Type 'Yes' or 'No'.