A
Mini Project Report
On

Guess the number game

Presented by

PRUTHVIRAJ GYANCHAND GAIKWAD

SY-A[CSE]

Computer Science and Engineering
(2025 – 2026)

Guided By

Ms. S.S Wagre / Ms. N. L. Pariyal

(Department of Computer Science and Engineering)

Submitted to

MGM's College of Engineering, Nanded

Under

Dr. Babasaheb Ambedkar Technological University, Lonere

Certificate

This is to certify that the mini project entitled

Guess the number game
Submitted By

PRUTHVIRAJ GYANCHAND GAIKWAD

In satisfactory manner as a partial fulfillment of

SY[CSE] in Computer Science and Engineering

To

MGM's College of Engineering, Nanded

Under

Dr. Babasaheb Ambedkar Technological University, Lonere

has been carried out under my guidance,

Ms. S.S Wagre / Ms. N. L. Pariyal
Mini Project Guide

Dr. Mrs. A. M. Rajurkar   **Dr. Mrs. G. S. Lathkar**

H.O.D   **Director**

Computer Science & Engineering   MGM's College of Engg., Nanded

Table of Contents

1. Introduction

The Array Based Guess the Number Game is a simple console-based game developed using Object Oriented Programming principles. In this game, the system generates a random number within a specific range, and the user attempts to guess the number. Based on the user's input, the program provides hints such as whether the guessed number is higher or lower than the generated number.

This project helps in understanding the basics of programming logic as well as the practical implementation of object oriented concepts like classes, objects, methods, and encapsulation.

2. Objectives of the Project

To understand and apply Object Oriented Programming concepts

To develop logical thinking and problem-solving skills

To learn the use of random number generation

To improve user interaction using input and output statements

To create a simple and interactive game application

3. Problem Statement

Design and develop an array-based program that generates a random number and allows the user to guess it. Each user guess is stored in an array, and the program provides hints until the correct number is guessed.

4.Code snippet

```java
import java.util.Scanner;
import java.util.Random;

public class GuessNumberArray {
public static void main(String[] args) {

Random rand = new Random();
Scanner sc = new Scanner(System.in);

int number = rand.nextInt(100) + 1;
int[] guesses = new int[100];
int attempts = 0;
int guess;

System.out.println("Guess the Number Game");
System.out.println("Guess a number between 1 and 100");

do {
System.out.print("Enter your guess: ");
guess = sc.nextInt();
```

```java
guesses[attempts] = guess;
attempts++;

if (guess < number) {
System.out.println("Too low! Try again.");
} else if (guess > number) {
System.out.println("Too high! Try again.");
} else {
System.out.println("Congratulations!");
System.out.println("You guessed the number in " + attempts +
" attempts.");
}

} while (guess != number);


System.out.println("\nYour guesses were:");
for (int i = 0; i < attempts; i++) {
System.out.print(guesses[i] + " ");
}

sc.close();
}
}
```

5. Methodology / Working of the Game

1. The program starts execution.

2. A random number is generated within a predefined range.

3. An array is initialized to store user guesses.

4. The user is prompted to enter a number.

5. The entered number is stored in the array.

6. The guess is compared with the generated number.

7. If the guess is incorrect, hints are provided.

8. Steps 4 to 7 are repeated until the correct number is guessed.

9. The program displays a success message along with the number of attempts.

6. Object Oriented Concepts Used

Class: Used to define the structure of the game.

Object: An instance of the game class to execute the logic.

Encapsulation: Game data and logic are wrapped inside a class.

Methods: Used for tasks like generating numbers, storing guesses in arrays, and checking results.

Abstraction: Only essential game details are shown to the user.

Array Usage: An array is used to store user guesses for analysis and tracking attempts.

7. Advantages of the Project

Simple and easy to understand

Improves logical and analytical skills

Demonstrates effective use of OOP concepts

User-friendly and interactive

8. Limitations

Limited to console-based interface

Single-player game

No graphical user interface

9. Applications

Used as a learning tool for beginners

Helps students understand OOP fundamentals

Can be extended into a GUI-based game

---

10. Conclusion

The Array Based Guess the Number Game project successfully demonstrates the use of Object Oriented Programming concepts in a simple and effective manner. This project enhances understanding of classes, objects, and logical flow of a program. It is a good foundation for developing more complex applications in the future.