Green University of Bangladesh

Dept. of Computer Science & Engineering (CSE)
Faculty of Sciences and Engineering
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Lab Project Report

Course Title: Structure Programming Lab   **Course Code**: CSE-104

Lab Project Name   : Number Guessing Game

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Number Guessing Game

Chapter 1
Introduction

Introduction:

The number guessing game is a game in which we estimate computer-generated numbers based on a hypothesis, and if our prediction is true, we are rewarded and learn how accurate our guess was. We can improve our guessing skills by playing this game, and eventually, we will be able to predict anything quite correctly.

Design Goals/Objective:

1. This is a fun game.
2. This game improves our IQ level.
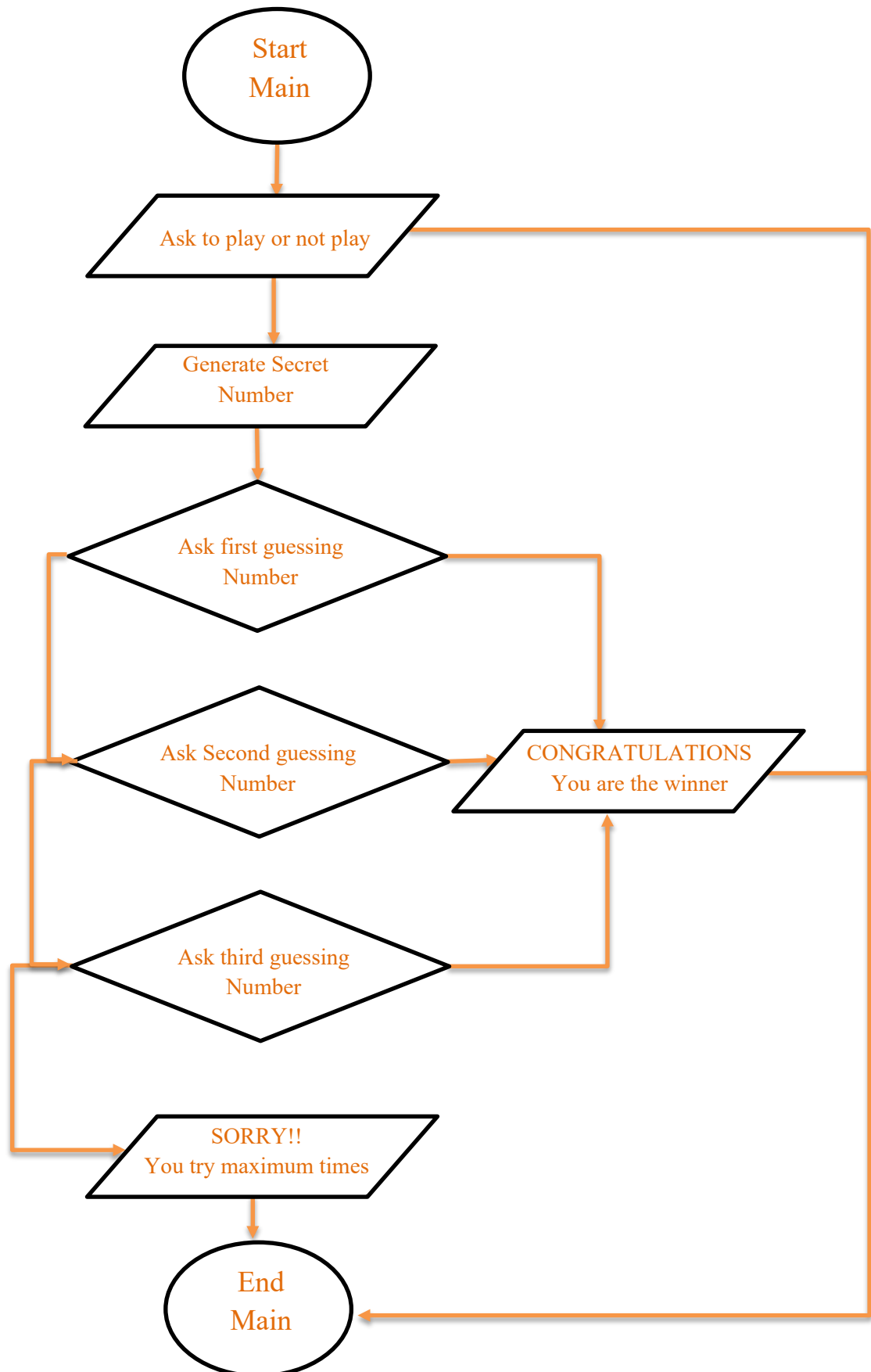3. This game is improving our thinking level.

Chapter 2

Design/Development/Implementation of the Project

Game Design: Number Guessing Game

Fig-1: Guess the Number

Game Development:

```
                    ┌─────────────┐
                    │    Start    │
                    │    Main     │
                    └─────────────┘
                           │
                           ▼
              ╱────────────────────────╲
             ╱   Ask to play or not play ╲
             ╲                           ╱
              ╲────────────────────────╱
                           │
                           ▼
              ╱────────────────────────╲
             ╱     Generate Secret       ╲
             ╲         Number            ╱
              ╲────────────────────────╱
                           │
                           ▼
                  ◇ Ask first guessing ◇
                  ◇      Number         ◇

                  ◇ Ask Second guessing ◇      CONGRATULATIONS
                  ◇      Number          ◇     You are the winner

                  ◇ Ask third guessing ◇
                  ◇      Number         ◇

                      SORRY!!
                  You try maximum times

                    ┌─────────────┐
                    │     End     │
                    │     Main    │
                    └─────────────┘
```

Start
Main

Ask to play or not play

Generate Secret
Number

Ask first guessing
Number

Ask Second guessing
Number

CONGRATULATIONS
You are the winner

Ask third guessing
Number

SORRY!!
You try maximum times

End
Main

Implementation of the project:

```c
#include <stdio.h>

#include <stdlib.h>

#include <time.h>

int main() {

  int i, number, currentGuess, MAX_GUESS = 3;

  char play;

  char answer;

  time_t t;

  srand((unsigned) time(&t));

  number = rand() % 100 + 1;

  printf("Did you play game of Guess!");

  printf("\nIgnore this game press any key.\nPlay this gme press y or Y!\n");


  scanf("%c", &play);

  if(play == 'y' || play == 'Y'){

    printf("Welcome to the game of Guess It!");

    for (i = 0; i < MAX_GUESS; i++) {

     printf("\nGuess Your Number: ");

     scanf("%i", &currentGuess);


      if (currentGuess > 100) {

        printf("Illegal guess. Your guess must be between 1 and 200.\n");

        printf("Try again.\n ");
```

```c
        }
        else if (currentGuess > number) {
            printf("Guess Low Number\n");
        }
        else if (currentGuess < number) {
            printf("Guess High Number\n");
        }
        else {
            printf("****CONGRATULATIONS****\nYou Are The Winner\nYou Are The Guessing Boss!");
            return 0;
        }
    }
    printf("****Sorry****\n\nYou tries maximum times.\nCorrect Guess Number: %d\nYou Are a Losser :-)", number);
    }
    else{
        printf("Wish you try to next time?");
    }
    return 0;
}
```

Chapter 3

Performance Evaluation

Simulation Environment/ Simulation Procedure:

TOOLS & TECHNOLOGIES -
1. Programming Language: C
2. Visual Studio Code- GCC
3. Operating system Windows 11.

Results:

```
32Did you play game of Guess!
Ignore this game press any key.
Play this gme press y or Y!
y
Welcome to the game of Guess It!
Guess Your Number: 45
Guess Low Number

Guess Your Number: 36
Guess Low Number

Guess Your Number: 32
****CONGRATULATIONS****
You Are The Winner
```

Fig-1

```
Did you play game of Guess!
Ignore this game press any key.
Play this gme press y or Y!
Y
Welcome to the game of Guess It!
Guess Your Number: 56
Guess High Number

Guess Your Number: 67
Guess High Number

Guess Your Number: 89
Guess High Number
****Sorry****

You tries maximum times.
Correct Guess Number: 91
```

Fig-2

```
Did you play game of Guess!
Ignore this game press any key.
Play this gme press y or Y!
k
Wish you try to next time?
```

Fig-3

Discussions:

This application is easy to use and its interface is very simple that means application is user friendly.

Chapter 4

Conclusion

Conclusion:

As I am a beginner in using C programming language. So, I think it a good start with the project of number guessing game. Usually, the program of guessing game contains basic of c with a conditional statement, for loop and with some special functions.

Practical Implications:

The program can be used to build simple application software. Number guessing game has no limitation of specific subject. Its auto generated number and ask this number for user. If the user answers correctly, then congress the users and not guess the number then show sorry and play next time.

Scope of Future Work:

Finally, this project we will learn how to create a simple number guessing game in C program using vs code and this will increase our program skill level and help us to solve real life problems.

END