An Assignment Work submitted for the subject

PROGRAMMING FOR INTERACTIVE MEDIA LAB(PRACTICAL)

B.Sc. GAME PROGRAMMING

By

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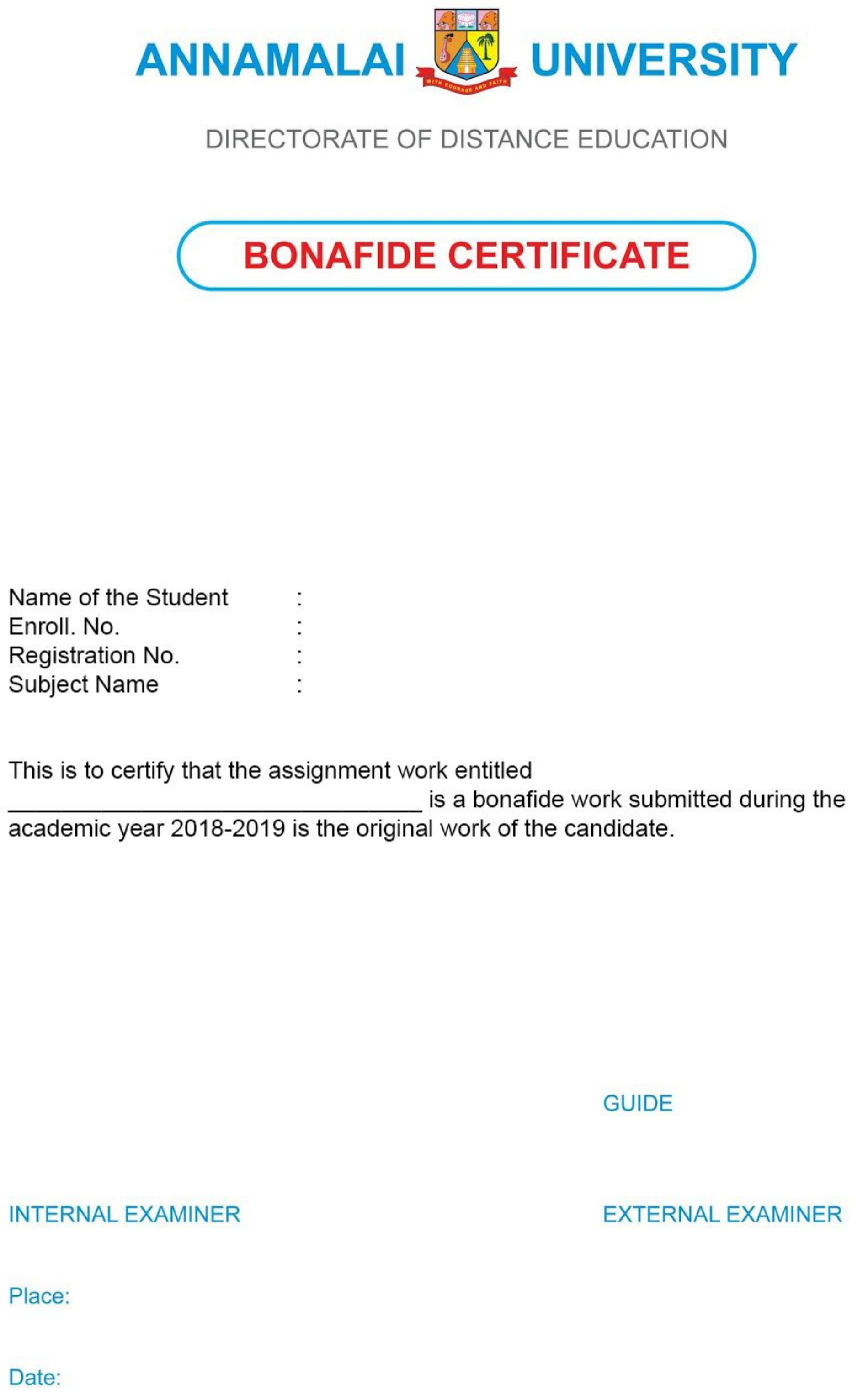

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GUIDE

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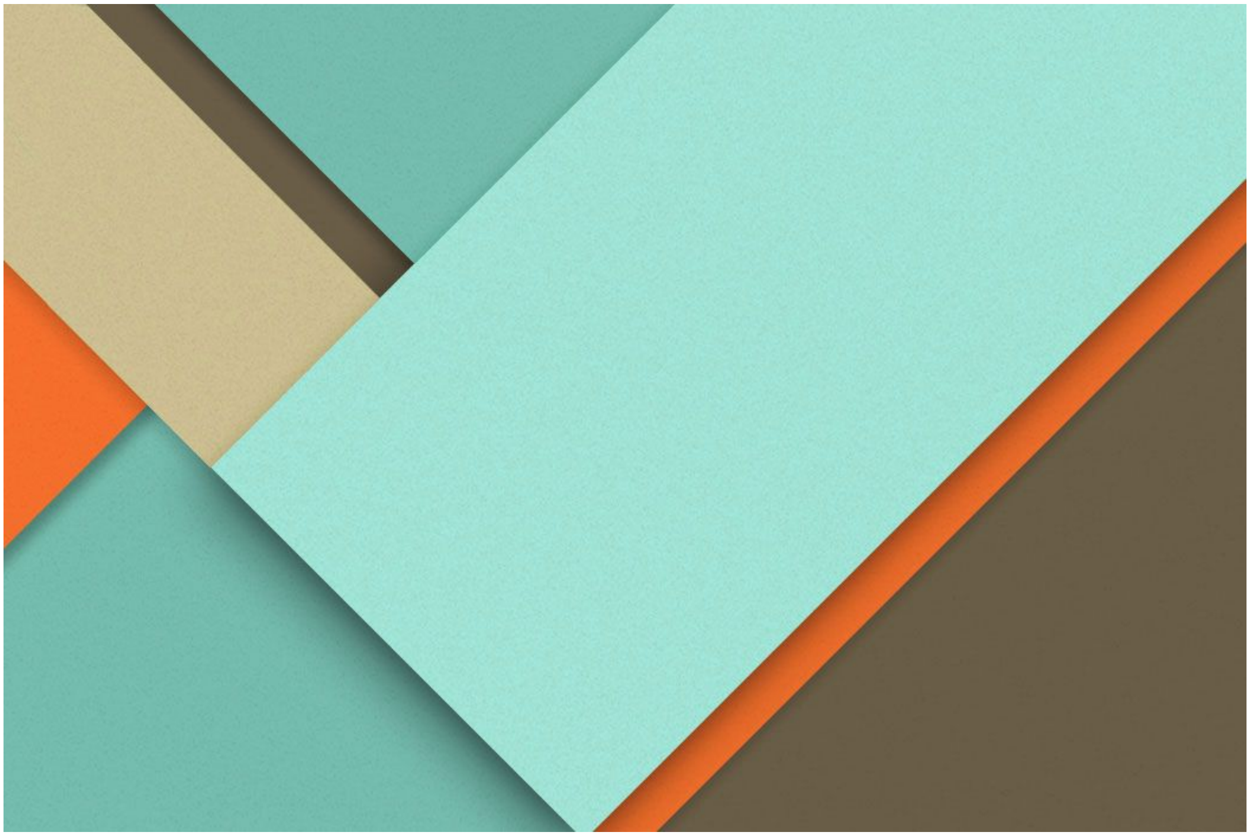

Game Design Document

Ajil Pappachan
L4 GDV

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Introduction

This Game Design Document (GDD) is a summary of the efforts put into the creation of the text-based game, **Hangman**, from idea generation and prototyping to the production of the final, full fledged game. Moreover, this GDD also aims to give credit to every person, Physical material, and softwares which aided in the production of the final game.

About Game

Hangman is a text-based game based on the paper and pencil game of the same name. The objective of the player is to guess the name of a country, one letter at a time. And everytime the player guesses wrong, the player's avatar moves one step closer to being executed.

Game Overview

The player is tasked to guess the name of a country, which would be hidden behind a placeholder. The player has to guess the name, one letter at a time. Every time the player makes a guess, if the guessed letter is present in the name, the position(s) of that letter in the name would be revealed. If the guess is wrong, a mistake point will be awarded. If the player gets five mistake points, their avatar is hanged and it's Game Over.

Why this Game?

After Initial Pitch presentation of various ideas, interviews were conducted to take the feedback from selected target representatives. After collecting all the data, it was decided that Players generally tend to spend less time playing text based games, and even when they do play, it’s mostly for a short amount of time, and they prefer the game to be replayable in case they wanted to come back and play another time. Hence, Hangman seemed to be the perfect candidate to be finalized, because of it’s short game time, and it’s replayability factor.

Hardware Specifications

The Game works fine in lower end systems. However, the following specifications are recommended:

Intel i3-3300 @3.3 GHz

4 GB RAM

Nvidia Geforce GT 210

500 GB HDD

IDE Used

All of the Programming for the game was done with **C++** on **DevCPP V5.11** IDE.

The music used in the game belongs to the youtube channel **mrAudioAgent - Music For Videos**. The Audio was obtained from the Youtube Video in the given link:

https://www.youtube.com/watch?v=g_qC1XOvTwM

Target Platform

The Game can be played in any PC or Laptop which have a Windows 7, Windows 8, Windows 8.1 or Windows 10 Operating System

Game Logic

The Game uses the principle of Arrays to generate a random Country name from a list of predefined Country names. Functions are utilized for an Algorithmic flow of the Gameplay. The Properties of Character arrays and Strings are utilized to perform all the logical operations in the Program. A Switch is used to drive the main menu.

Code Snippets and Code Explanation

```
#include<iostream>
#include<string.h>
#include<process.h>
#include<windows.h>
#include<mmsystem.h>
using namespace std;
//Including All The Header Files

void showtries(int tries,int mistakes)
{
        cout<<"Tries    : "<<tries;
        cout<<"\tMistakes : "<<mistakes;
        cout<<endl<<endl;
}
//Prints the Number of tries and Mistake Points on top of the screen

void drawhangman(int mistakes)
{
        system("color f4");
        switch(mistakes)
        {
```

```
case 0:
        cout<<"\n\n\n\n\n\n";
        break;
case 1:
        cout<<"\t\n";
        cout<<"\t\n";
        cout<<"\t ( )\n";
        cout<<"\t\n";
        cout<<"\t\n";
        break;
case 2:
        cout<<"\n";
        cout<<"\t\n";
        cout<<"\t ( )\n";
        cout<<"\t /|\\\n";
        cout<<"\t\n";
        break;
case 3:
        cout<<"\n";
        cout<<"\t\n";
        cout<<"\t ( )\n";
        cout<<"\t /|\\\n";
        cout<<"\t / \\\n";
        break;
case 4:
        cout<<"\t        |\n";
        cout<<"\t        |\n";
        cout<<"\t ( )    |\n";
        cout<<"\t /|\\    |\n";
```

```
			cout<<"\t / \\    |\n";
			break;
		case 5:
			cout<<"\t_______|\n";
			cout<<"\t  |      |\n";
			cout<<"\t ( )    |\n";
			cout<<"\t /|\\    |\n";
			cout<<"\t / \\    |\n";
			break;
		default:
			break;
	}
	cout<<endl<<endl;
}
//Prints a part of the Hangman whenever the player makes a mistake

void printword(char word[],string guesses)
{
	cout<<"Guess The Word : \n\n";
	char print;
	for(int c=0;c<=strlen(word);c++)
	{
		print='_';
		for(int i=0;i<=guesses.length();i++)
		{
			if(word[c]==guesses[i])
			print=guesses[i];
		}
		cout<<print<<" ";
```

```
          }
          cout<<endl<<endl;
}
```

//Prints Placeholders for the word to guess

```
int isrepeated(char guess,string guesses)
{
                    int flag=0;
          for(int i=0;i<=guesses.length();i++)
          {
                    if(guesses[i]==guess)
                    {
                              flag=1;
                    }
          }
          return flag;
}
```

//Checks if the recieved guess has been made before

```
void checkerror(char guess,char word[],int& mistakes)
{
          int flag=0;
          for (int i=0;i<=strlen(word);i++)
          {
                    if(guess==word[i])
                    flag=1;
          }
          if(flag==1)
          {
```

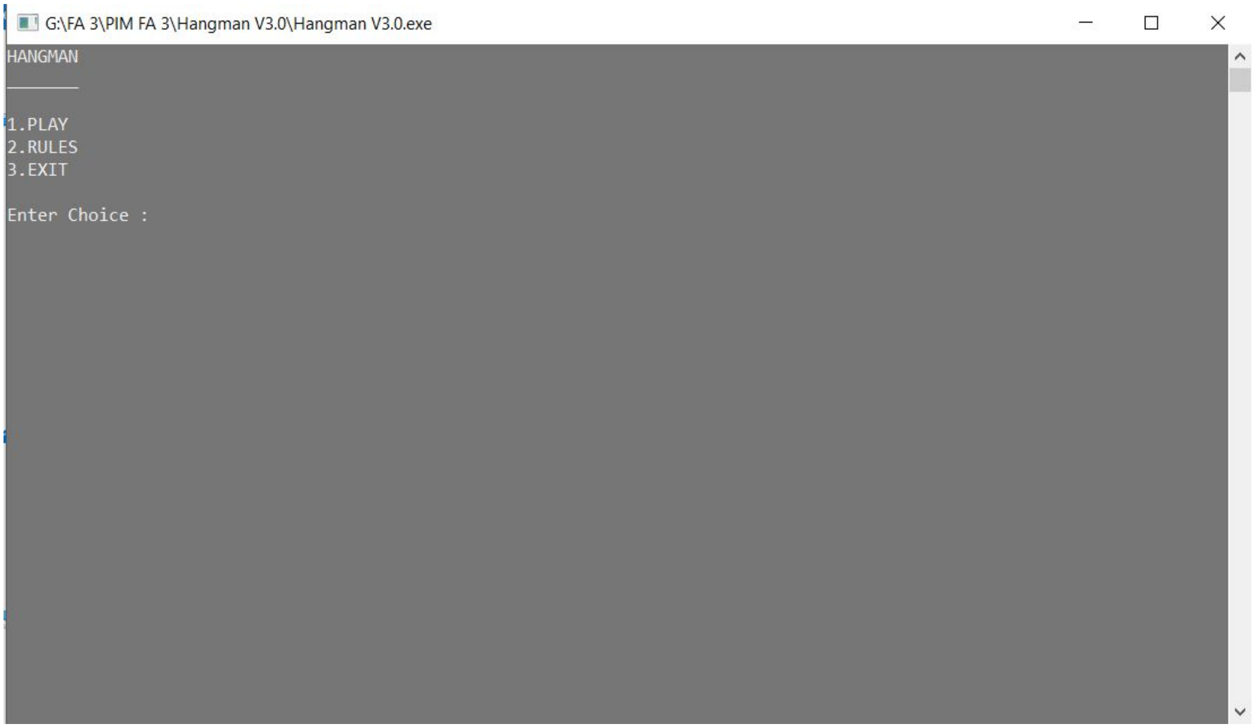
```
        cout<<"\n\nCorrect Letter!";
        PlaySound(TEXT("Correct.wav"), NULL, SND_FILENAME)
    }
    else
    {
        cout<<"\n\nWrong Letter!";
        mistakes++;
    }
    cout<<endl;
    system("pause");
}
//Checks if the guess is correct or wrong

bool checkend(char word[],string guesses,int mistakes)
{
    bool end=false;
    int check=-1;
    for(int i=0;i<=strlen(word);i++)
    {
        for(int c=0;c<=guesses.length();c++)
        {
            if(word[i]==guesses[c])
            {
                check++;
                break;
            }
        }
    }
    if (check==strlen(word) || mistakes==5) end=true;
```

```
        return end;
}
//checks if all the letters in the words have been guessed

void play()
{
        system("color 8f");
        int tries=-1,mistakes=0;
        char guess, wordlist[20][20] = {"INDIA","Australia","USA","Africa"},word[20] =
wordlist[random(20)][20];
        string guesses = "";
        do
        {
        system("cls");
        tries++;
        showtries(tries,mistakes);
        drawhangman(mistakes);
        printword(word,guesses);
        if(checkend(word,guesses,mistakes)) break;
        cout<<"Enter A Guess : ";
        cin>>guess;
        if(isrepeated(guess,guesses)==1) { cout<<"\n\nLetter Already Guessed!\n";
system("pause"); continue; }
        guess=toupper(guess);
        checkerror(guess,word,mistakes);
        guesses+=guess;
        }while(mistakes<=5);
        if(mistakes==5)
        {
                cout<<"\n\nGAME OVER!\n__________";
```

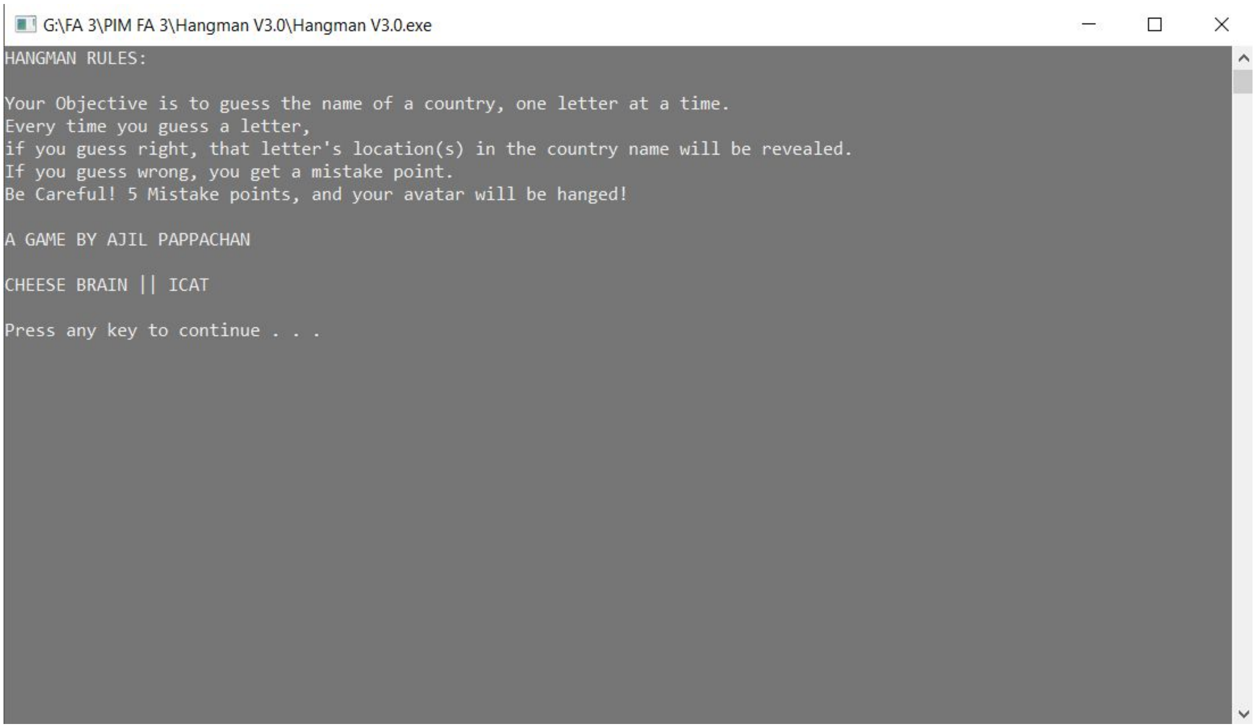
```
    }
    else
    {
        cout<<"\n\nYOU WIN!\n_______";
    }
    cout<<endl;
    system("pause");
    system("cls");
}
//When called, Starts the Game

void rules()
{
    system("cls");
    cout<<"HANGMAN RULES:\n\n";
    cout<<"Your Objective is to guess the name of a country, one letter at a time.\nEvery time you guess a letter,\nif you guess right, that letter's location(s) in the country name will be revealed.\nIf you guess wrong, you get a mistake point.\nBe Careful! 5 Mistake points, and your avatar will be hanged!\n\nA GAME BY AJIL PAPPACHAN\n\nCHEESE BRAIN || ICAT\n\n";
    system("pause");
    system("cls");
}
//When called, Game Rules will be printed on screen

int main()
{
    PlaySound(TEXT("Bgm.wav"), NULL, SND_FILENAME | SND_LOOP | SND_ASYNC);
    system("color 8f");
    int opt;
    do
    {
        cout<<"HANGMAN\n______\n";
        cout<<"\n1.PLAY\n2.RULES\n3.EXIT\n\nEnter Choice : ";
        cin>>opt;
        switch(opt)
        {
            case 1:
                play();
                break;
            case 2:
                rules();
                break;
            case 3:
                break;
            default:
                cout<<"Invalid Option!\n";
                system("pause");
                system("cls");
                break;
        }

    }while(opt!=3);
    return 0;
}
```

//The Main() for the Main Menu

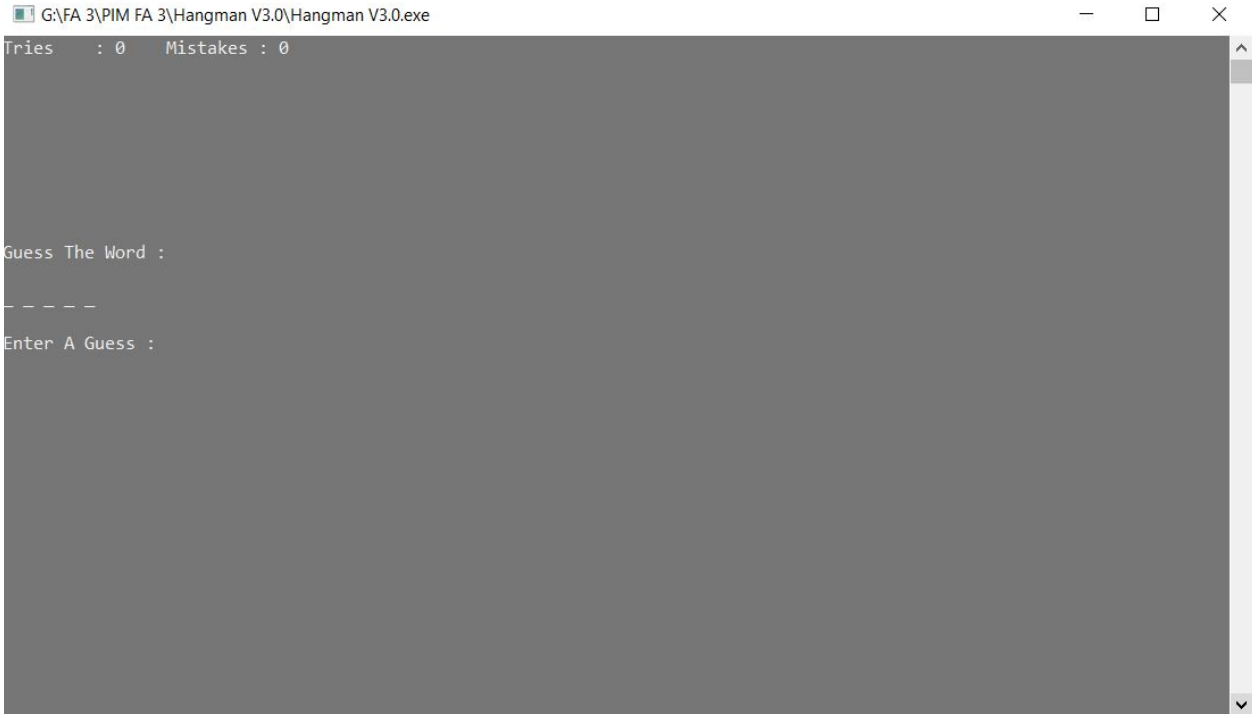
Gameplay Screenshots



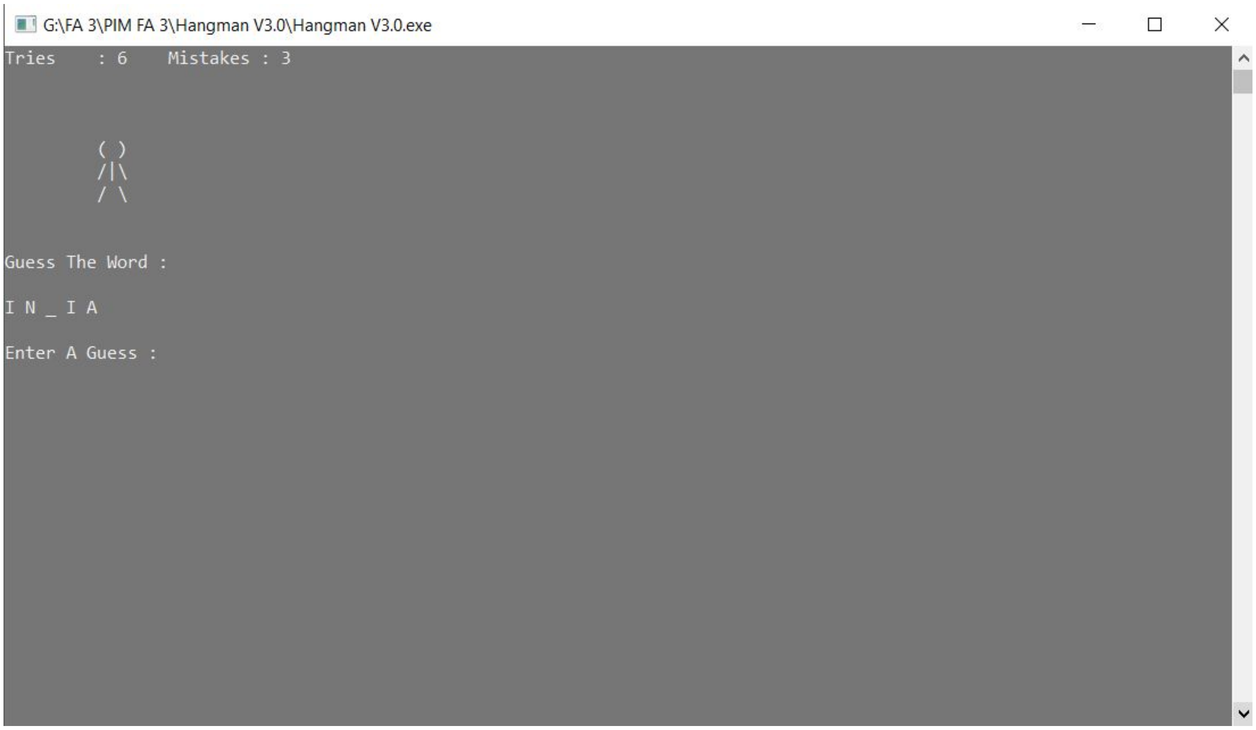
```
HANGMAN
_______

1.PLAY
2.RULES
3.EXIT

Enter Choice :
```



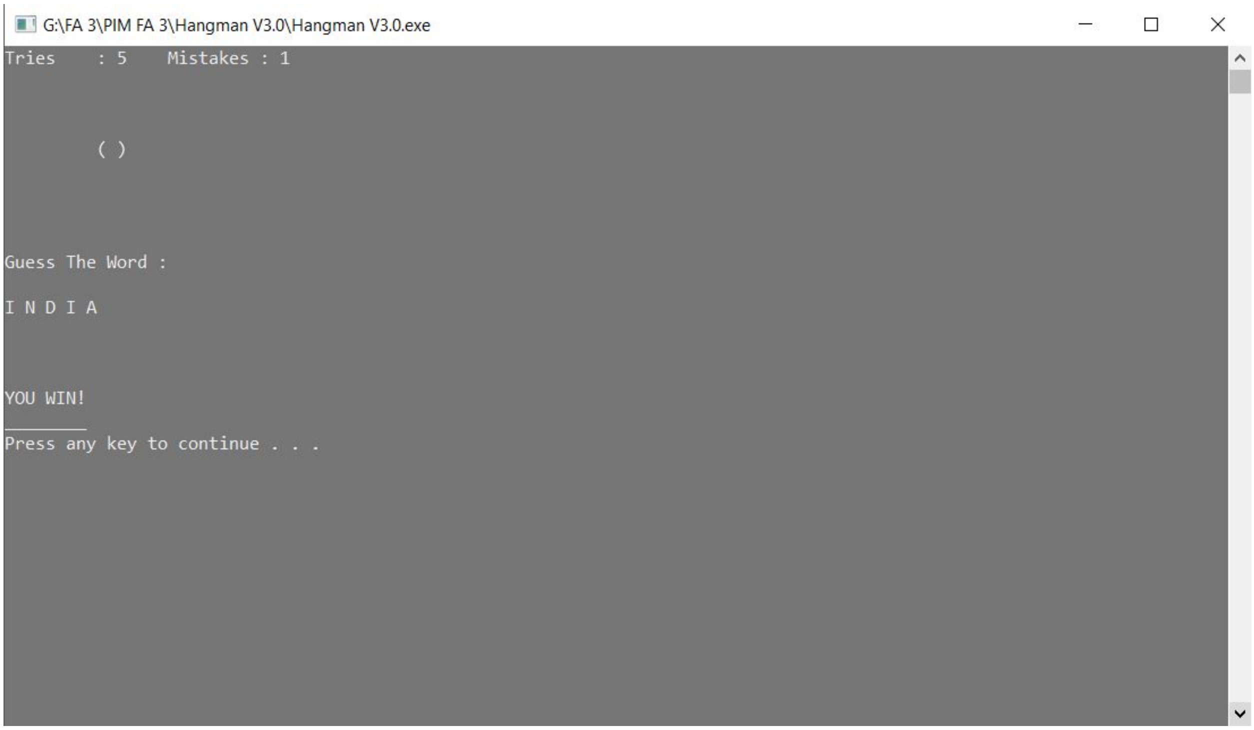
```
HANGMAN RULES:

Your Objective is to guess the name of a country, one letter at a time.
Every time you guess a letter,
if you guess right, that letter's location(s) in the country name will be revealed.
If you guess wrong, you get a mistake point.
Be Careful! 5 Mistake points, and your avatar will be hanged!

A GAME BY AJIL PAPPACHAN

CHEESE BRAIN || ICAT

Press any key to continue . . .
```



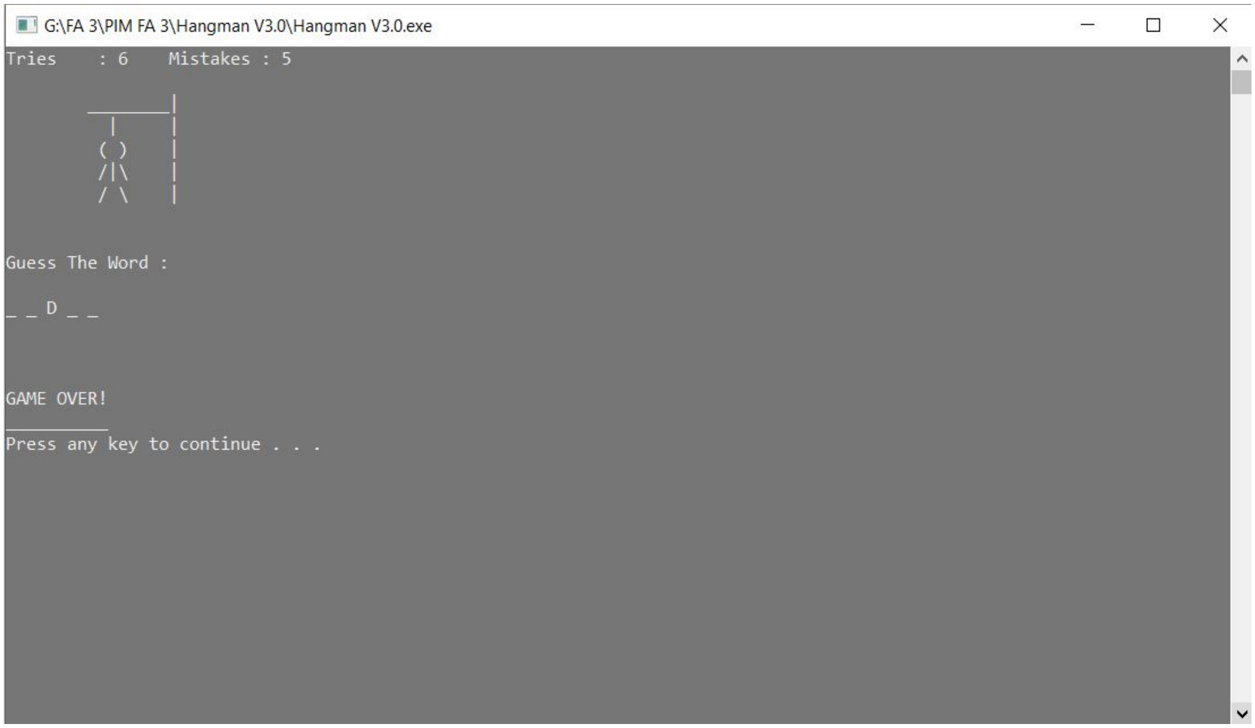
```
Tries    : 0    Mistakes : 0






Guess The Word :

_ _ _ _ _

Enter A Guess :
```



```
Tries    : 6    Mistakes : 3



         ( )
         /|\
         / \

Guess The Word :

I N _ I A

Enter A Guess :
```



```
Tries    : 5    Mistakes : 1



         ( )




Guess The Word :

I N D I A



YOU WIN!
________
Press any key to continue . . .
```



```
Tries    : 6    Mistakes : 5

        ________|
          |     |
         ( )    |
         /|\    |
         / \    |


Guess The Word :

_ _ D _ _



GAME OVER!
__________
Press any key to continue . . .
```