IT WORKSHOP PROJECT (MATLAB)

PROJECT

RANDOM NUMBER GUESSING GAME

- ***NAME OF THE PROJECT*** : NUMBER GUESSING GAME IN MATLAB
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- ***SUBJECT ;*** IT WORKSHOP LAB

INTRODUCTION

The guess the Number project in MATLAB based application that allows user to play a number guessing game against the system . the game is simple ; the system generates a random number between 1 and 100 and the user tries to guess the number . if the user guesses correctly they win a point . if the user guesses incorrectly the system wins a point. the game ends when the user reaches its maximum limits to guess the game when is being set in the game

The project has the following features ;

1) **Professional looking GUI** : the GUI is designed to be user friendly and visually appealing
2) User can choose how many rounds he or she wants to play . the user can choose single or multiple rounds
3) User can quit the game anytime: User can quit the game anytime and the game will save the current score

The project can be used for variety of purposes :

- **Educational purposes:** the game be used to teach students about probability and statistics
- **Recreational purposes:** the game can be used as a fun and challenging way to pass the time
- **Competitive purposes:** the game can be used as a competitive activity between friends or family members

ALGORITHM OR PSEUDOCODE OF THE GAME :

Step 1: *Start/Begin*

Step 2: *function CHECKButtonPushed(app, event)n=app.EditField.Value;*

while round<numberofrounds nr=randi([1,100],1,1);

if n>nr

userscore=userscore+1;

break;

elseif n<nr

computerscore=computerscore+1; break;

else

userscore=userscore+1;

computerscore=computerscore+1; break;

end

end

Step 3: *function CHECKButtonPushed(app, event) if round+1>numberofrounds*

if userscore>computerscore sprintf("Congratulations! %s for winning",playern);else if userscore<computerscore sprintf("Congratulations! Computer for winning");else

sprintf("It's a tie!");

end

end

function CHECKButtonPushed(app, event) if round+1>numberofround if bestscore<userscore

   app.bestscore.Value= app.userscore.Value; end

end

function PLAYAGAINButtonPushed(app, event)

app.NUMBEROFROUNDSEditField.Value=0;
app.USERSCOREEditField_2.Value=0;
app.COMPUTERSCOREEditField.Value=0;
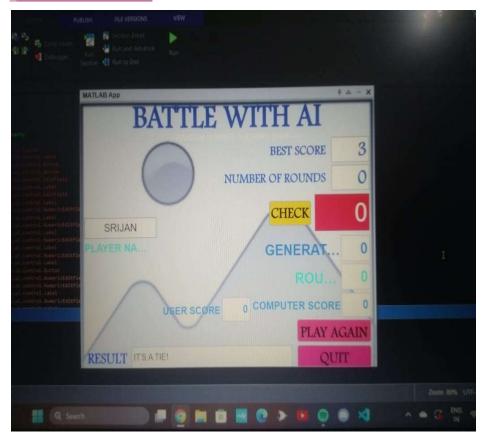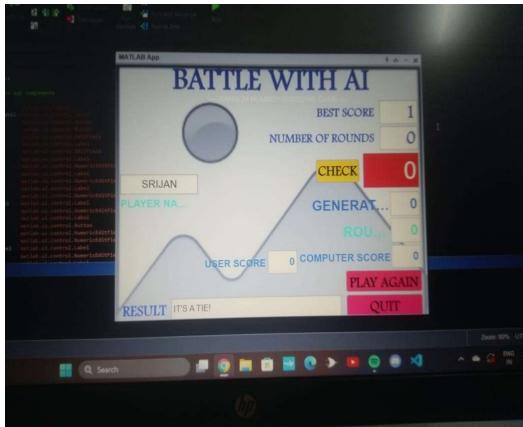*app.ROUNDEditField.Value=0;*
app.RESULTEditField.Value=' '

                                                           ;
app.NUMBERGENERATEDEditField.Value=0; app.EditField.Value=0;

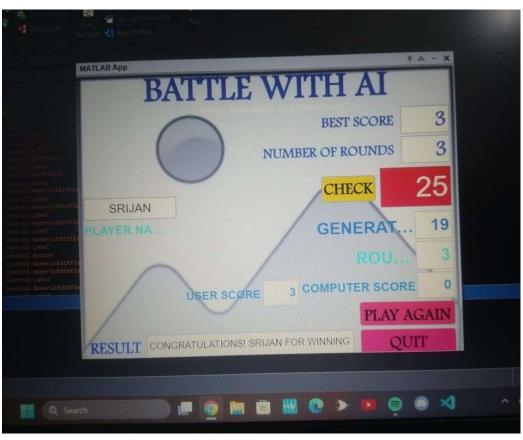*function QUITButtonPushed(app, event)*

numberofround=round;

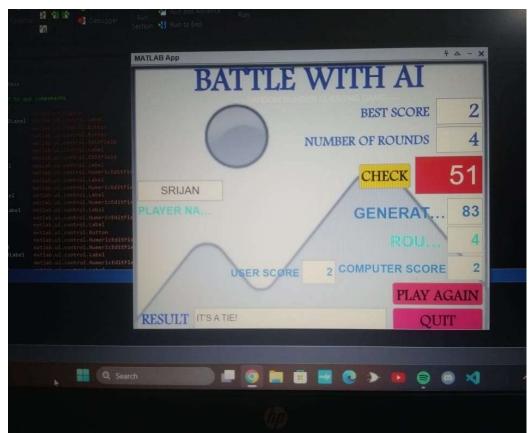*Calling function CHECKButtonPushed(app,event) and performingtheoperations present in it.*
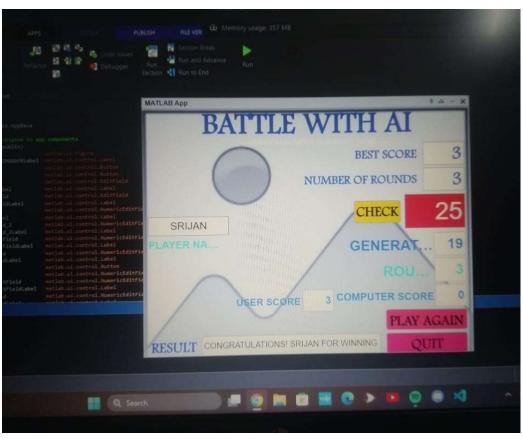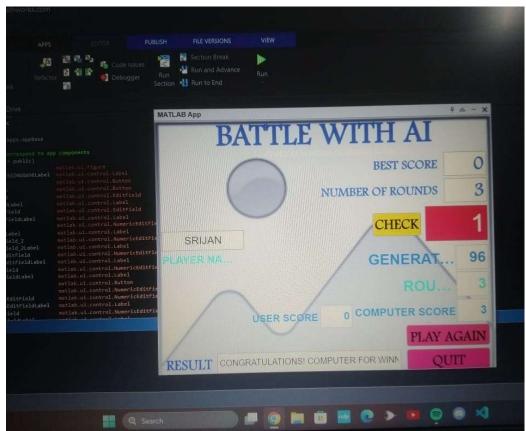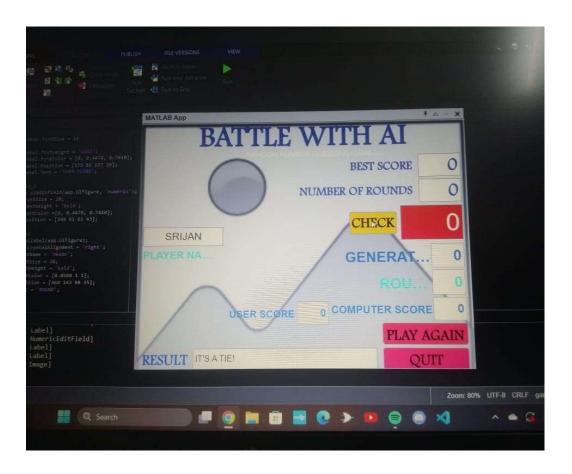
End.

RESULTS:

C O N C L U S I O N :

The Guess the Number project is a successful implementation of a number guessing game in MATLAB. The project has all of the required features, <u>including a professional-looking GUI, the ability to choose the number of rounds to play, the ability to quit the game anytime</u>, and the ability to keep track of the score for the user and the system. The game also includes a feature to declare the winner at the end of the game based on the highest score.

The project can be used for a variety of purposes, such as <u>educational, recreational, and competitive purposes</u>. It is also a good example of how MATLAB can be used to develop interactive and engaging applications.

Here are some specific conclusions about the project:

- ☐ The GUI is well-designed and easy to use. The game logic is sound and the game is fair.
- ☐ The game is fun and challenging.
- ☐ The project is well-documented and easy to understand.

Overall, the Guess the Number project is a well-executed project that demonstrates the developer's skills in MATLAB and GUI design..