Alphabet Game

CS170-01

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All portions of the project created by Hamza Ahmed

All Functions

abcGame class

abcGame()

playAudio()

stop()

updateFile()

generateRandomAbc()

removeTheElement()

addX()

abcGameApp class

main()

Object of abcGame is called

gameOverFrame

doDrawing()

abcgameApp()

initUI

Variables

abcGame

boolean isGameOver;

JFrame jf;//main frame

JFrame bFrame;//scoreboard frame

JFrame hToPFrame;//how to play frame

JPanel jpI1,jpI2,jpI3,jpI4,jpI5,jpI6,jp1, jp2, jp3, mainP;//panels for main frame

JPanel p1, p2, p3, p4,p5, mP, tP; //scoreboard panels for player info

JLabel mainL, numberL, resultL;//labels for main panels

JLabel l1,l2,l3,l4,l5,l6,l7,l8,tL;//labels used for both main and scoreboard

JPanel hToPP;//how to play panel

JLabel hToPL;//how to play label

JTextField resultT;//user input textfield

JButton calculateB, nextB, scoreB;//buttons to be displayed in the game frame

//variables for audio clip

Long currentFrame;

Clip clip;

// Random class object declared

Random rand;

// To store current level of the game

int level;

// To store first, second random number

String first, second;

// To store the calculate result and user current score
String result;
// To count number of questions asked
int counter, score;
// To store user name
String name;

This project consists of two classes which are abcGame and abcGameApp. The abcGame class has the majority of the methods and the constructor of this class is the main method in which most gameplay is coded. Functions for abcGame include playAudio() which plays the audio from a wav file, stop() which stops the audio from playing, updateFile() which takes the user-inputted name and score will add it to the text file if the score is in the top 5. The function removes the lowest score and the name that corresponds. Then it deletes and writes the new top 5 players into the txt file. generateRandomABC() generates a random alphabet using the random class and intialized it to first variable. The second variable is initialized to the alphabet that follows first and the result is the alphabet that follows the second. For example, if a becomes first then b will be initialized as second and c will be initialized as the result. This is the basis of the game as in the game there are two alphabets displayed which are first and second. The correct answer is the result variable and you can see how this works in the fifth image below. The last two functions are remove and add functions that remove and add strings from an array at a certain index. The main part of this program is the abcGame constructor which starts off by constructing the start game frame. There is an image and two buttons that will be displayed on this screen. The two buttons are how to play and start game. The how to play button outputs another frame with instructions and the start game button creates a new frame with multiple panels and labels which you can see in the gameplay. This panel that is created after the start game button is the main game frame as the user will enter their answer there and see their results. First, the user is prompted to enter their name which will be stored in a txt file granted they break the top 5 players using the updateFile function. On the main game frame, there are three buttons. The scoreboard button will display the scoreboard with the top 5 players. The show result button will show the user if the user entered the correct alphabet or if they are incorrect. If incorrect the program displays the correct result and changes some of the panel's color to red and displays a gif that says wrong answer. Answering correctly causes the panels to turn into a green color and good job messages will be displayed in the result tab and through gifs in the panels. The next question button resets the color to blue and removes the gifs that came with answering right or wrong. Each time player presses the next question the level is incremented by 1. Once it hits 10 levels the game resets score is displayed and the gameOver panel created in the abcGameApp class is set to visible. In abcGameApp we have two methods that are used to draw shapes on a frame using graphics2d and it also draws an image on the frame. This frame is the game over screen which shows up at the end of ten rounds. If the player scores higher than a top 5 player his name and score is saved in the txt file and will be displayed in the next time program is run. In
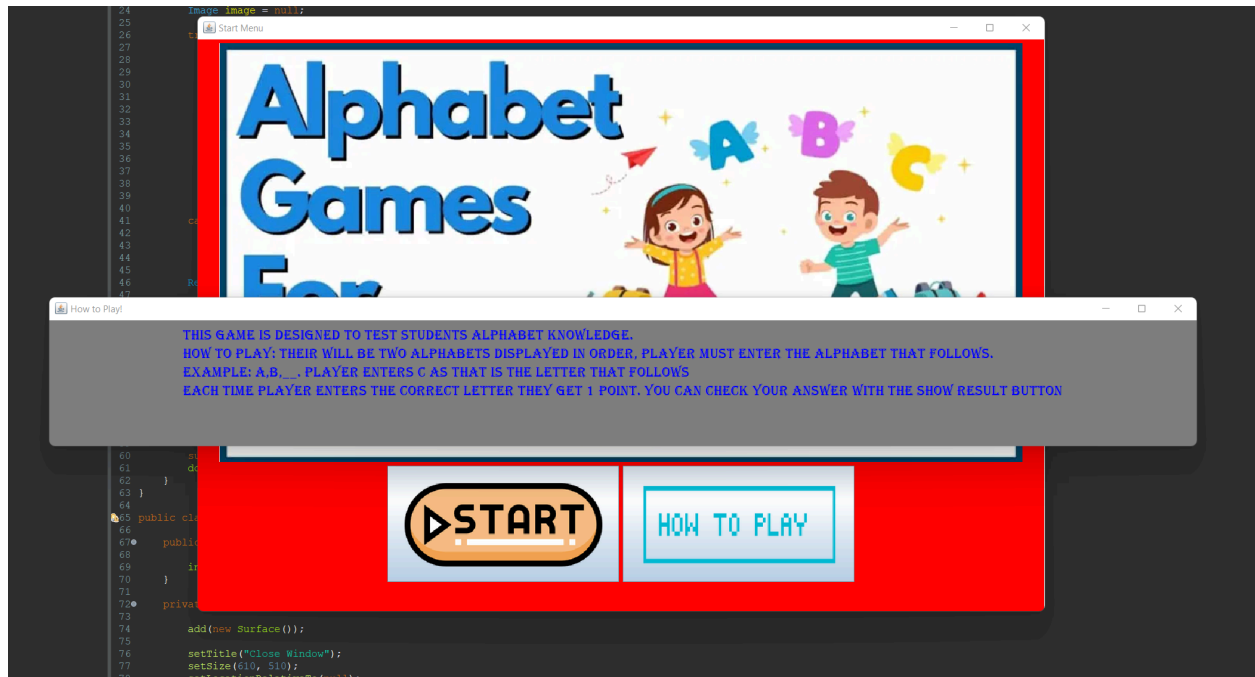
the main all that needs to be down is creating an object of class abcGame as most of the code is done in the constructor and creating an object of the class invokes this constructor.

Screenshots
Start Screen

How To Play Button Pressed

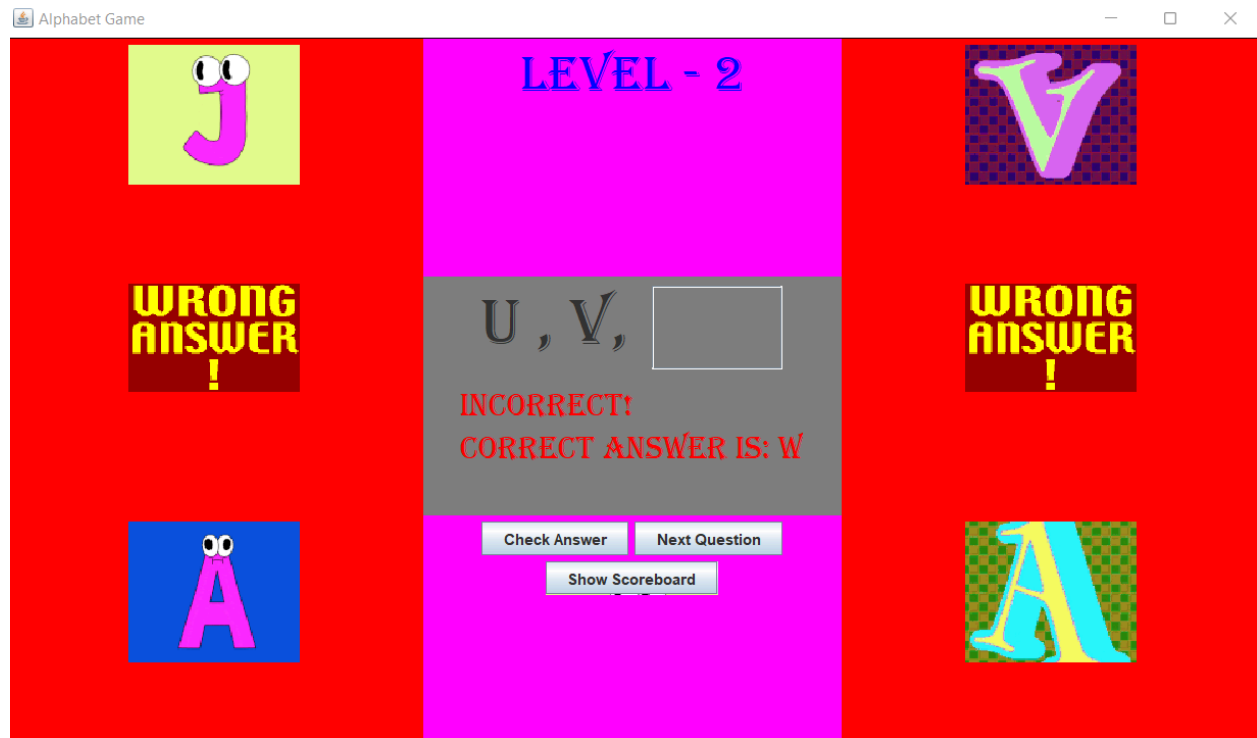
Start button pressed to open game
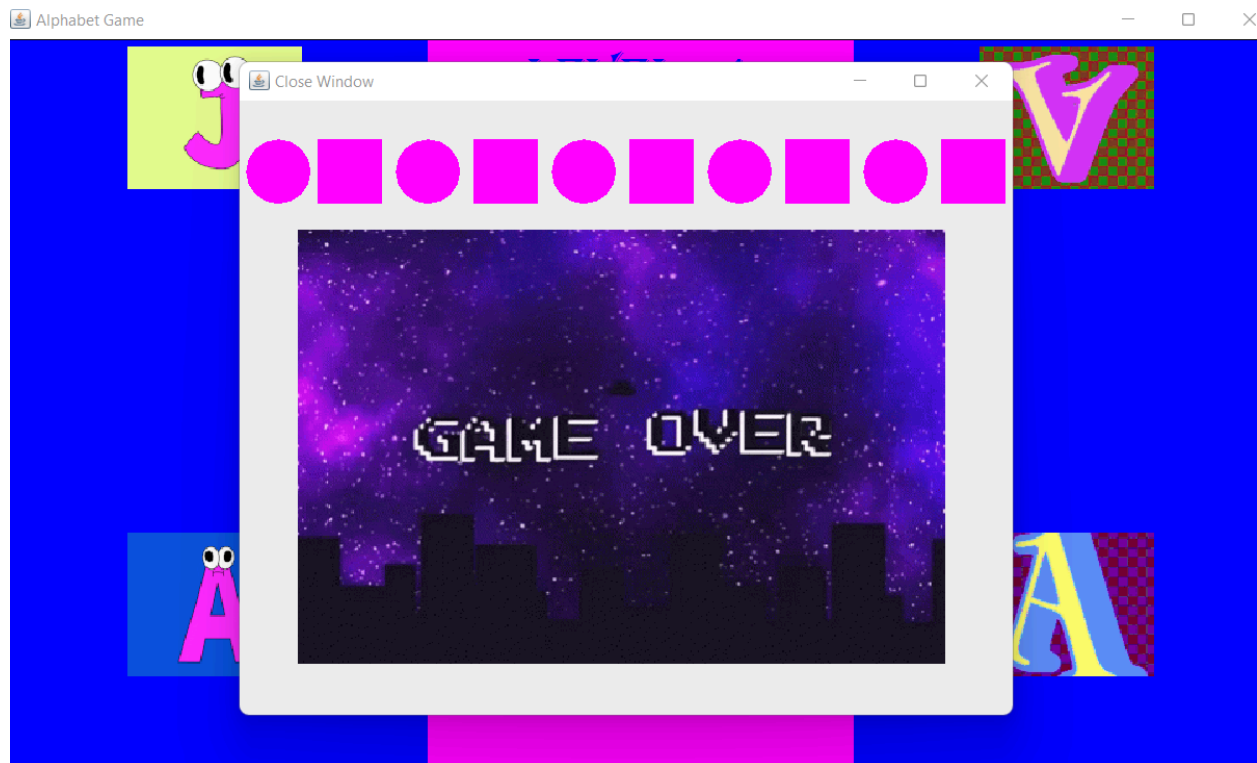
Show Scoreboard button pressed

Correct Answer Input

Incorrect Answer Input

10 rounds game over screen

I had no group members so there are no group meetings to report. This project took multiple consecutive days and it was very time-consuming but it was enjoyable to make.