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Course: CS170-02

Lab #: Project

Submission Date: 10:00 pm, Wed (12/07)

Project Description: Alphabet learning program as an education game for pre-school or first grade kids.

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| **Class Name** | **Class Description** | **Methods** | **Data** |
| AlphabetGame | This is the main class that create the AlphabetGameFrame frame and sets it to true | main - main method | None |
| AlphabetGameFrame | This class used by the Alphabet Game Panel. This frame displays welcome message and plays a welcome audio file, it creates instance for AlphabetGamePanel. | AlphabetGameFrame - main method that creates the alphabet game panel for the player, shows welcome message and plays the welcome music | String Name = ""; // initiate player name  AudioClip gameStartAudio; // initiate audio clip  URL gameStartAudioURL; // define url variable |
| AlphabetGamePanel | Alphabet Game panel, creates all buttons and all alphabet letters and then it defines action listener for each of them to listen to mouse and keyboard | AlphabetGamePanel - main method to create the button and letters panels and display buttons, labels and text | long totalLetters; // count for total letters  int rightButton; // count for right button pressed    int wrongButton; // count for wrong button pressed    String player; // variable for player name |
|  |  | matchingLetter - checks matching letter and plays appropriate music and message, also adds counts for correct and wrong key pressed. | String droppingLetter; // string to store dropping letter    String buttonLetter; // string to store button letter pressed    int rightButton; // count for right button pressed    int wrongButton; // count for wrong button pressed |
|  |  | actionPerformed - action performed for the start, stop, exit and score buttons | int rightButton; // count for right button pressed    int wrongButton; // count for wrong button pressed |
|  |  | Method: writeScore - method to write the scores | int rightButton; // count for right button pressed    String player; // player name |
|  |  | readScore() - method to read the data in sorted fashion to get top 5 scores | String text; text to show top 5 score |
|  |  | keyStepup - method to assign the key listener to call the matching letter | None |
| AlphabetGameLetterPanel | Alphabet Game letter panel, it uses threads and overwrites the run method to display letters panel, the letter position, color and alphabet is selected as random. This class is used by AlphabetGamePanel class | AlphabetGameLetterPanel - main method to start the thread | public static Thread letterThread; // declare thread |
|  |  | run - this method creates the thread and uses sleep to set speed of the dropped alphabet | public static Thread letterThread; // declare thread |
|  |  | paint - this method draws the letter using random position, color and alphabet | private int y; // variable for positioning    static long nLetterDropped; // variable to check number of letters dropped    int ranNum = ranNum(); // random number    String letter = ranNumLetter(); // random letter    Color letterColor= ranNumColor(); // random color |
|  |  | stop - method to stop the thread | public static Thread letterThread;v// declare thread |
|  |  | getLetter - method get a random letter | String letter = ranNumLetter(); // random letter |
|  |  | ranNum - method to generate random number | int ranNum = ranNum(); // random number |
|  |  | ranNumLetter() - method to generate random letter | int ranNumLetter; // random number    String alphabet; // declare all alphabets in string |
|  |  | ranNumColor() - method to generate random color, as a combination of RGB | int ranColorRed; // generate random red    int ranColorBlue; // generate random blue    int ranColorGreen; // generate random green |