

```

#include "FEHLCD.h"
#include "FEHUtility.h"
#include <FEHImages.h>
#include <FEHRandom.h>

#define x_mid 160
#define y_mid 120

//function prototypes
char Menu();
int childAdventure();
int adultAdventure();
void results(int moralityScore, int age);
void stats();
void credits();
void purgatoryRandom();

/*Will be used to track the player's stats as they progress through adventures.
Contains private members for
stats variables such as the number of wins, losses, and draws the user obtains
during each run, as well as
the user's highest and lowest score from each run. The class contains a
constructor which initializes all
these values to 0, as well as 2 functions: one to update the user's stats, and
one to display them.
Lastly, the user's morality score is a public member variable. This class was
written by Aayush. */
class Stats
{
    private:
        int numWins;
        int numLosses;
        int numDraws;
        int highScore;
        int lowScore;

    public:
        int moralityScore;
        Stats();
        void updateStats();
        void displayStats();
};

/* Entry point to the application: will call the menu function, and depending on
where the user clicks,

```

will run the corresponding code. If user wants to play, asks the user if they are a child or an adult.

Based on this answer, the user will either play the child or adult adventures.

After each adventure,

The user is prompted to play again, sending them back to the menu if yes, until they say no.

This code was co-written by both Ian and Aayush.

```
*/
int main() {
    Stats userStats; //Will be used to track the user's information to display
    when the user wants to see stats.

    float x, y;
    char menuChoice;
    int moralityScore;
    char userChoice = 'c';

    while(userChoice == 'c') { //Will run until user exits the Proteus simulator
        LCD.SetFontColor(GREEN);
        menuChoice = Menu();
        if(menuChoice == 'p') { //User wants to play the game
            LCD.Clear();
            //Will draw a line down the middle of the screen letting user decide
            child or adult
            LCD.DrawLine(x_mid, 0, x_mid, 240);
            LCD.WriteAt("Child", 40, 100);
            LCD.WriteAt("< 18yo", 20, 120);
            LCD.WriteAt("Adult", 220, 100);
            LCD.WriteAt(">= 18yo", 200, 120);
            Sleep(0.5); //Waits for half a second
            while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses
            something

            if(x <= x_mid) { //User selected child
                userStats.moralityScore = 0; //Resets morality score at start of
                each run

                userStats.moralityScore = childAdventure(); //Will return the
                morality score from the user's adventures
                results(userStats.moralityScore, 1); //Will display final
                animations based on user's moralityScore and being a child
            }
            else if(x > x_mid) { //User selected adult
                userStats.moralityScore = 0; //Resets morality score at start of
                each run
```

```

        userStats.moralityScore = adultAdventure(); //Will return the
morality score from the user's adventures
        results(userStats.moralityScore, 18); //Will display final
animations based on user's moralityScore and being an adult
    }

    LCD.Clear();

    userStats.updateStats(); //Will update the user's stats based on
their performance in the adventure.

    LCD.SetFontColor(GREEN);
    LCD.WriteAt("Play again?", 100, 20);
    Sleep(2.0);
    LCD.Clear();
    LCD.DrawLine(x_mid, 0, x_mid, 240);
    LCD.WriteAt("Yes", 70, y_mid);
    LCD.WriteAt("No", 240, y_mid);
    while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses
something
    while(LCD.Touch(&x, &y)) {} //Wait until the user releases

    if(x > x_mid) { //User selected no
        userChoice = 'q'; //End the game
    }
}
else if(menuChoice == 's') { //User wants to display stats
    userStats.displayStats();
}
else if(menuChoice == 'h') { //User wants to display help
    LCD.Clear();
    LCD.WriteAt("Choose you own adventure", 0, 0);
    LCD.WriteAt("Make decisions by clicking", 0, 20);
    LCD.WriteAt("But beware your choices-", 0, 40);
    LCD.WriteAt("They will be judged...", 0, 60);
    LCD.WriteAt("In the end...", 0, 80);
    LCD.WriteAt("Return to main menu", 45, y_mid);
    Sleep(0.5); //Waits for half a second
    while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses
something
    while(LCD.Touch(&x, &y)) {} //Wait until the user releases
}
else { //User wants to display credits
    credits();
}

```

```

        LCD.Clear();
    }
}

/* This function is called by main, and is used to print out the main menu with
four different options.
Returns a character based on where the user clicks, and what action that click
corresponds to.
This code was already partially written out in the FEH Proteus website, however,
any additional changes
were written by Ian.
*/
char Menu() {
    LCD.Clear();

    float x, y;
    while(!(LCD.Touch(&x, &y))) { //Until the user presses something
        // declare an array of four icons called menu
        FEHIcon::Icon menu[4];

        // define the four menu labels
        char menu_labels[4][20] = {"START", "STATS", "HELP", "CREDITS"};

        // draw the menu in a 2 by 2 array with top and bottom
        // margins of 10 and left and right margins of 5
        // with the menu labels, gold borders, and green text
        FEHIcon::DrawIconArray(menu, 2, 2, 10, 10, 5, 5, menu_labels, GOLD,
GREEN);
    }

    if((x <= x_mid) && (y <= y_mid)) { //User pressed the top left
        return 'p'; //User wants to play the game
    }
    else if((x > x_mid) && (y <= y_mid)) { //User pressed the top right
        return 's'; //User wants to display stats
    }
    else if((x <= x_mid) && (y > y_mid)) { //User pressed the bottom left
        return 'h'; //User wants to display help
    }
    else { //User pressed the bottom right
        return 'c'; //User wants to display credits
    }
}
}

```

```

/*This will run all 6 child adventures. Returns the user's morality score after
all child scenarios have been played.
This morality score will then be used to determine where the user ends up in the
afterlife.
This function was co-written by both Ian and Aayush.
*/
int childAdventure() {
    int moralityScore = 0;

    float x, y;

    LCD.Clear(); //Start of scenario 1
    LCD.WriteAt("You see another kid", 0, 0);
    LCD.WriteAt("Being bullied at school", 0, 20);
    Sleep(2.0);
    LCD.WriteAt("Because he is a nerd", 0, 40);
    Sleep(2.0);
    LCD.WriteAt("With no friends.", 0, 60);
    Sleep(2.0);
    LCD.WriteAt("What do you do?", 0, 80);
    Sleep(2.0);
    LCD.Clear();

    LCD.DrawLine(x_mid, 0, x_mid, 240);
    LCD.DrawLine(0, y_mid, 320, y_mid);

    LCD.WriteAt("Bully him", 0, 0);
    LCD.WriteAt("because", 0, 20);
    LCD.WriteAt("he is lame.", 0, 40);

    LCD.WriteAt("Let the", x_mid, 0);
    LCD.WriteAt("other kids", x_mid, 20);
    LCD.WriteAt("bully him ", x_mid, 40);
    LCD.WriteAt("because", x_mid, 60);
    LCD.WriteAt("he is lame.", x_mid, 80);

    LCD.WriteAt("Tell an", 0, (y_mid + 5));
    LCD.WriteAt("adult.", 0, 140);

    LCD.WriteAt("Stand up ", x_mid, (y_mid + 5));
    LCD.WriteAt("for him", x_mid, 140);
    LCD.WriteAt("because", x_mid, 160);
    LCD.WriteAt("he's not lame", x_mid, 180);

    while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something

```

```

if((x <= x_mid) && (y <= y_mid)) { //User pressed the top left
    moralityScore -= 20;
}
else if((x > x_mid) && (y <= y_mid)) { //User pressed the top right
    moralityScore -= 10;
}
else if((x <= x_mid) && (y > y_mid)) { //User pressed the bottom left
    moralityScore += 10;
}
else { //User pressed the bottom right
    moralityScore += 20;
} //End of scenario 1

LCD.Clear(); //Start of scenario 2
LCD.WriteAt("You find $100 in cash", 0, 0);
LCD.WriteAt("On the ground!!!", 0, 20);
Sleep(2.0);
LCD.WriteAt("There is nobody", 0, 40);
LCD.WriteAt("Else around", 0, 60);
Sleep(2.0);
LCD.WriteAt("What do you do?", 0, 80);
Sleep(2.0);
LCD.Clear();

LCD.DrawLine(x_mid, 0, x_mid, 240);

LCD.WriteAt("Steal it.", 0, y_mid);

LCD.WriteAt("Look", 200, y_mid);
LCD.WriteAt("around for", 200, 140);
LCD.WriteAt("an owner", 200, 160);

while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something

if(x <= x_mid) { //User clicked on the left
    moralityScore -= 20;
}
else if(x > x_mid) { //User clicked on the right
    moralityScore += 20;
} //End of scenario 2

LCD.Clear(); //Start of scenario 3
LCD.WriteAt("You see a cute puppy!", 0, 0);
LCD.WriteAt("In your local park", 0, 20);

```

```

LCD.WriteAt("But don't see an owner", 0, 40);
Sleep(2.0);
LCD.WriteAt("The dog has a collar", 0, 60);
LCD.WriteAt("With its return address", 0, 80);
Sleep(2.0);
LCD.WriteAt("What do you do?", 0, 100);
Sleep(2.0);
LCD.Clear();

LCD.DrawLine(x_mid, 0, x_mid, 240);

LCD.WriteAt("Steal it.", 0, y_mid);

LCD.WriteAt("Look", 200, y_mid);
LCD.WriteAt("around for", 200, 140);
LCD.WriteAt("an owner", 200, 160);

while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something

if(x <= x_mid) { //User clicked on the left
    moralityScore -= 20;
}
else if(x > x_mid) { //User clicked on the right
    moralityScore += 20;
} //End of scenario 3

LCD.Clear(); //Start of scenario 4
LCD.WriteAt("It is Halloween!", 0, 0);
LCD.WriteAt("You are Trick or Treating", 0, 20);
Sleep(2.0);
LCD.WriteAt("You see a bowl on a porch", 0, 40);
Sleep(2.0);
LCD.WriteAt("With a sign saying:", 0, 60);
Sleep(2.0);
LCD.WriteAt("\"Please Take One\"", 0, 80);
Sleep(2.0);
LCD.WriteAt("What do you do?", 0, 100);
Sleep(2.0);
LCD.Clear();

LCD.DrawLine(x_mid, 0, x_mid, 240);
LCD.DrawLine(0, y_mid, 320, y_mid);

LCD.WriteAt("Take one", 0, 0);
LCD.WriteAt("piece only.", 0, 20);

```

```

LCD.WriteAt("Take three", x_mid, 0);
LCD.WriteAt("pieces. ", x_mid, 20);

LCD.WriteAt("Take five", 0, (y_mid + 5));
LCD.WriteAt("pieces.", 0, 140);

LCD.WriteAt("GORGE.", x_mid, (y_mid + 5));

while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something

if((x <= x_mid) && (y <= y_mid)) { //User pressed the top left
    moralityScore += 20;
}
else if((x > x_mid) && (y <= y_mid)) { //User pressed the top right
    moralityScore += 0;
}
else if((x <= x_mid) && (y > y_mid)) { //User pressed the bottom left
    moralityScore -= 10;
}
else { //User pressed the bottom right
    moralityScore -= 20;
} //End of scenario 4

LCD.Clear(); //Start of scenario 5
LCD.WriteAt("You made a bowl of popcorn", 0, 0);
LCD.WriteAt("Your brother asks you for", 0, 20);
LCD.WriteAt("A few bites", 0, 40);
Sleep(2.0);
LCD.WriteAt("What do you do?", 0, 60);
Sleep(2.0);
LCD.Clear();

LCD.DrawLine(x_mid, 0, x_mid, 240);

LCD.WriteAt("Let him have", 0, y_mid);
LCD.WriteAt("a few bites", 0, 140);

LCD.WriteAt("Dump it all", x_mid, y_mid);
LCD.WriteAt("in the trash", x_mid, 140);
LCD.WriteAt("in front", x_mid, 160);
LCD.WriteAt("of him", x_mid, 180);

while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something

```



```

    if(x <= x_mid) { //User clicked on the left
        moralityScore += 20;
    }
    else if(x > x_mid) { //User clicked on the right
        moralityScore -= 20;
    } //End of scenario 5

    LCD.Clear(); //Start of scenario 6
    LCD.WriteAt("You have contracted a rare,", 0, 0);
    LCD.WriteAt("Untreatable disease.", 0, 20);
    Sleep(2.0);
    LCD.WriteAt("The doctors are giving", 0, 40);
    LCD.WriteAt("You a final wish.", 0, 60);
    Sleep(2.0);
    LCD.WriteAt("What do you wish for?", 0, 80);
    Sleep(2.0);
    LCD.Clear();

    LCD.WriteAt("I wish", 120, 40);
    LCD.WriteAt("to meet my hero:", 60, 60);
    LCD.WriteAt("Dhar Mann!", 110, 80);

    while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something

    LCD.Clear();
    LCD.WriteAt("You wait in your bed but", 0, 0);
    LCD.WriteAt("Nobody arrives.", 0, 20);
    Sleep(2.0);
    LCD.WriteAt("After a long time,", 0, 40);
    LCD.WriteAt("You see a white light", 0, 60);
    Sleep(2.0);
    LCD.WriteAt("Everything goes black.", 0, 80);
    Sleep(2.0);
    //End of scenario 6

    LCD.Clear();
    return moralityScore;
}

/*This will run all 6 adult adventures. Returns the user's morality score after
all adult scenarios have been played.
This morality score will then be used to determine where the user ends up in the
afterlife.
This function was co-written by both Ian and Aayush.
*/

```

```

int adultAdventure() {
    int moralityScore = 0;
    float x, y;

    LCD.Clear(); //Start of scenario 1
    LCD.WriteAt("You meet a very attractive", 0, 0);
    LCD.WriteAt("And wealthy woman", 0, 20);
    Sleep(2.0);
    LCD.WriteAt("But you are married.", 0, 40);
    Sleep(2.0);
    LCD.WriteAt("What do you do?", 0, 60);
    Sleep(2.0);
    LCD.Clear();

    LCD.DrawLine(x_mid, 0, x_mid, 240);
    LCD.DrawLine(0, y_mid, 320, y_mid);

    LCD.WriteAt("Cheat on your", 0, 0);
    LCD.WriteAt("loyal wife", 0, 20);
    LCD.WriteAt("for 12 years", 0, 40);

    LCD.WriteAt("Cheat on your", x_mid, 0);
    LCD.WriteAt("loyal wife", x_mid, 20);
    LCD.WriteAt("for 12 months", x_mid, 40);

    LCD.WriteAt("Cheat on your", 0, (y_mid + 5));
    LCD.WriteAt("loyal wife", 0, 140);
    LCD.WriteAt("for 12 hours", 0, 160);

    LCD.WriteAt("Don't cheat", x_mid, (y_mid + 5));
    LCD.WriteAt("at all", x_mid, 140);

    while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something

    if((x <= x_mid) && (y <= y_mid)) { //User pressed the top left
        moralityScore -= 20;
    }

    else if((x > x_mid) && (y <= y_mid)) { //User pressed the top right
        moralityScore -= 10;
    }

    else if((x <= x_mid) && (y > y_mid)) { //User pressed the bottom left
        moralityScore -= 5;
    }

    else { //User pressed the bottom right

```

```

        moralityScore += 20;
    } //End of scenario 1

    LCD.Clear(); //Start of scenario 2
    LCD.WriteAt("You found out that your", 0, 0);
    Sleep(2.0);
    LCD.WriteAt("Nephew stole money", 0, 20);
    LCD.WriteAt("From your office", 0, 40);
    Sleep(2.0);
    LCD.WriteAt("What do you do?", 0, 60);
    Sleep(2.0);
    LCD.Clear();

    LCD.DrawLine(x_mid, 0, x_mid, 240);
    LCD.DrawLine(0, y_mid, 320, y_mid);

    LCD.WriteAt("Allow him", 0, 0);
    LCD.WriteAt("to steal", 0, 20);
    LCD.WriteAt("from anywhere", 0, 40);
    LCD.WriteAt("he wants", 0, 60);

    LCD.WriteAt("Punish him;", x_mid, 0);
    LCD.WriteAt("beat him up", x_mid, 20);

    LCD.WriteAt("Call Dhar", 0, (y_mid + 5));
    LCD.WriteAt("mann or", 0, 140);
    LCD.WriteAt("a trusted", 0, 160);
    LCD.WriteAt("friend for", 0, 180);
    LCD.WriteAt("advice on", 0, 200);
    LCD.WriteAt("the situation", 0, 220);

    LCD.WriteAt("Explain to", x_mid, (y_mid + 5));
    LCD.WriteAt("him that", x_mid, 140);
    LCD.WriteAt("he was wrong", x_mid, 160);
    LCD.WriteAt("without using", x_mid, 180);
    LCD.WriteAt("violence", x_mid, 200);

    while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something

    if((x <= x_mid) && (y <= y_mid)) { //User pressed the top left
        moralityScore -= 20;
    }

    else if((x > x_mid) && (y <= y_mid)) { //User pressed the top right
        moralityScore -= 20;
    }

```

```
}  
else if((x <= x_mid) && (y > y_mid)) { //User pressed the bottom left  
    moralityScore += 10;  
}  
else { //User pressed the bottom right  
    moralityScore += 20;  
} //End of scenario 2
```

```
LCD.Clear(); //Start of scenario 3  
LCD.WriteAt("You find a man who is", 0, 0);  
LCD.WriteAt("Richer than", 0, 20);  
LCD.WriteAt("Your husband.", 0, 40);  
Sleep(2.0);  
LCD.WriteAt("In fact,", 0, 60);  
LCD.WriteAt("He is a millionaire...", 0, 80);  
Sleep(2.0);  
LCD.WriteAt("Dhar Mann!", 0, 100);  
Sleep(2.0);  
LCD.WriteAt("What do you do?", 0, 120);  
Sleep(2.0);  
LCD.Clear();
```

```
LCD.DrawLine(x_mid, 0, x_mid, 240);  
LCD.DrawLine(0, y_mid, 320, y_mid);
```

```
LCD.WriteAt("Cheat on", 0, 0);  
LCD.WriteAt("your husband.", 0, 20);  
LCD.WriteAt("You need", 0, 40);  
LCD.WriteAt("the money", 0, 60);
```

```
LCD.WriteAt("Cheat on ", x_mid, 0);  
LCD.WriteAt("your husband.", x_mid, 20);  
LCD.WriteAt("Dhar Mann is", x_mid, 40);  
LCD.WriteAt("very very", x_mid, 60);  
LCD.WriteAt("attractive", x_mid, 80);
```

```
LCD.WriteAt("Cheat on ", 0, (y_mid + 5));  
LCD.WriteAt("your husband.", 0, 140);  
LCD.WriteAt("Dharr Mann's ", 0, 160);  
LCD.WriteAt("personality", 0, 180);  
LCD.WriteAt("is awesome", 0, 200);  
LCD.WriteAt("and ideal", 0, 220);
```

```
LCD.WriteAt("Don't cheat", x_mid, (y_mid + 5));  
LCD.WriteAt("at all", x_mid, 140);
```

```

while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something

if((x <= x_mid) && (y <= y_mid)) { //User pressed the top left
    moralityScore -= 10;
}

else if((x > x_mid) && (y <= y_mid)) { //User pressed the top right
    moralityScore -= 15;
}

else if((x <= x_mid) && (y > y_mid)) { //User pressed the bottom left
    moralityScore -= 5;
}

else { //User pressed the bottom right
    moralityScore += 15;
} //End of scenario 3

LCD.Clear(); //Start of scenario 4
LCD.WriteAt("You friend makes an", 0, 0);
LCD.WriteAt("Inappropriate joke", 0, 20);
Sleep(2.0);
LCD.WriteAt("About a coworker's", 0, 40);
LCD.WriteAt("Physical appearance", 0, 60);
Sleep(2.0);
LCD.WriteAt("What do you do?", 0, 80);
Sleep(2.0);
LCD.Clear();

LCD.DrawLine(x_mid, 0, x_mid, 240);

LCD.WriteAt("Laugh along", 0, 100);
LCD.WriteAt("with him", 0, 120);

LCD.WriteAt("Tell him that", x_mid, 100);
LCD.WriteAt("the joke ", x_mid, 120);
LCD.WriteAt("isn't ok", x_mid, 140);

while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something

if(x <= x_mid) { //User clicked on the left
    moralityScore -= 15;
}

else if(x > x_mid) { //User clicked on the right
    moralityScore += 15;
} //End of scenario 4

```

```

LCD.Clear(); //Start of scenario 5
LCD.WriteAt("While gambling, you lose", 0, 00);
LCD.WriteAt("All of your money.", 0, 20);
Sleep(2.0);
LCD.WriteAt("You see another person", 0, 40);
LCD.WriteAt("Winning lots of money.", 0, 60);
Sleep(2.0);
LCD.WriteAt("That person leaves their", 0, 80);
LCD.WriteAt("Chips on the table", 0, 100);
Sleep(2.0);
LCD.WriteAt("What do you do?", 0, 120);
Sleep(2.0);
LCD.Clear();

LCD.DrawLine(x_mid, 0, x_mid, 240);
LCD.DrawLine(0, y_mid, 320, y_mid);

LCD.WriteAt("Steal all", 0, 0);
LCD.WriteAt("of the money", 0, 20);

LCD.WriteAt("Steal half", x_mid, 0);
LCD.WriteAt("of the money", x_mid, 20);

LCD.WriteAt("Steal", 0, 120);
LCD.WriteAt("a fourth", 0, 140);
LCD.WriteAt("of the money", 0, 160);

LCD.WriteAt("Don't steal", x_mid, 120);
LCD.WriteAt("any money", x_mid, 140);

while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something

if((x <= x_mid) && (y <= y_mid)) { //User pressed the top left
    moralityScore -= 15;
}

else if((x > x_mid) && (y <= y_mid)) { //User pressed the top right
    moralityScore -= 10;
}

else if((x <= x_mid) && (y > y_mid)) { //User pressed the bottom left
    moralityScore += 10;
}

else { //User pressed the bottom right
    moralityScore += 15;
}

```

```

} //End of scenario 5

LCD.Clear(); //Start of scenario 6
LCD.WriteAt("It is Wintertime.", 0, 0);
LCD.WriteAt("You are walking past", 0, 20);
LCD.WriteAt("An icy pond", 0, 40);
Sleep(2.0);
LCD.WriteAt("And notice a small dog", 0, 60);
Sleep(2.0);
LCD.WriteAt("Struggling not to ", 0, 80);
LCD.WriteAt("Drown in the water.", 0, 100);
Sleep(2.0);
LCD.WriteAt("What do you do?", 0, 120);
Sleep(2.0);
LCD.Clear();

LCD.DrawLine(x_mid, 0, x_mid, 240);

LCD.WriteAt("Dive in to", 0, 80);
LCD.WriteAt("save the dog ", 0, 100);
LCD.WriteAt("even though ", 0, 120);
LCD.WriteAt("you risk", 0, 140);
LCD.WriteAt("your life", 0, 160);

LCD.WriteAt("Walk away and", 160, 100);
LCD.WriteAt("pretend you", 160, 120);
LCD.WriteAt("didn't notice", 160, 140);

while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something

if(x <= x_mid) { //User clicked on the left (Save dog)
    LCD.Clear();
    LCD.WriteAt("You save the dog!", 0, 0);
    Sleep(2.0);
    LCD.WriteAt("Both of you live the rest", 0, 20);
    LCD.WriteAt("Of your lives in peace. ", 0, 40);
    Sleep(2.0);
    LCD.WriteAt("Until one day...", 0, 60);
    Sleep(2.0);
    LCD.WriteAt("You see a bright light", 0, 80);
    LCD.WriteAt("And everything goes black.", 0, 100);
    Sleep(4.0);
    moralityScore += 15;
}
else if(x > x_mid) { //User clicked on the right (Let dog die)

```

```

        LCD.Clear();
        LCD.WriteAt("As you walk away from", 0, 0);
        LCD.WriteAt("The dog you left", 0, 20);
        LCD.WriteAt("In the pond...", 0, 40);
        Sleep(3.0);
        LCD.WriteAt("You are struck", 0, 60);
        LCD.WriteAt("By lightning", 0, 80);
        LCD.WriteAt("And die.", 0, 100);
        Sleep(3.0);
        LCD.WriteAt("This is what you deserve.", 0, 120);
        Sleep(3.0);
        moralityScore -= 15;
    } //End of scenario 6

    LCD.Clear();
    return moralityScore;
}

/* This function takes the user's morality score, as well as an int age value (1
for kid, 18 for adult)
to determine what ending animations and text should be played. Specifically, if
the user has a morality score
less than -15, they are greeted by the dhark reaper and will have their heart
devoured. If the user has a morality
score between -15 and 15, they will be greeted by Dhar Mann and will go to
purgatory, needing to repeat a mundane
task to escape. Lastly, if the user has a score greater than 15, they will be
greeted by the Dhar-Lai-Lama Mann,
and will go to heaven. This function was written primarily by Ian*/
void results(int moralityScore, int age) {
    float x, y;

    FEHImage weightBack; //Will draw a scale (weighing a heart vs. a feather) in
the background
    weightBack.Open("Soul_WeighingFEH.pic");

    FEHImage deathMann; //Images for hell
    FEHImage dharMouth;
    FEHImage little_Bite;
    FEHImage big_Bite;
    FEHImage huge_Bite;

    FEHImage dharMann; //Image for purgatory

    FEHImage heavenMann; //Images for heaven

```



```
FEHImage wheatHeaven;
```

```
if(moralityScore <= -15) { //User has been bad
    deathMann.Open("Dhar_Mann_The_DevourerFEH.pic");
    dharMouth.Open("Dhar_MouthFEH.pic");
    little_Bite.Open("little_BiteFEH.pic");
    big_Bite.Open("big_BiteFEH.pic");
    huge_Bite.Open("huge_BiteFEH.pic");

    if(age == 1) { //User was a child
        LCD.Clear();
        deathMann.Draw(200, 100);
        LCD.SetFontColor(RED);
        LCD.WriteAt("\You called?\\"", 0, 0);
        Sleep(2.0);
    }

    LCD.Clear();
    deathMann.Draw(200, 100);
    LCD.SetFontColor(RED);
    LCD.WriteAt("The Dhark Reaper", 0, 0);
    LCD.WriteAt("Has appeared!", 0, 20);
    Sleep(3.0);
    LCD.Clear();
    deathMann.Draw(200, 100);
    LCD.SetFontColor(RED);
    LCD.WriteAt("The Dhark Reaper ", 0, 0);
    LCD.WriteAt("Weighs your soul", 0, 20);
    LCD.WriteAt("Against a feather", 0, 40);
    Sleep(3.0);
    LCD.Clear();
    weightBack.Draw(0 ,0);
    deathMann.Draw(200, 100);
    Sleep(2.0);
    LCD.Clear();
    LCD.SetFontColor(RED);
    LCD.WriteAt("He deems it evil.", 0, 0);
    Sleep(2.0);

    if(age == 1) { //User was a child
        LCD.Clear();
        deathMann.Draw(200, 100);
        LCD.SetFontColor(RED);
        LCD.WriteAt("\You have been a bad child", 0, 0);
```

```

        LCD.WriteAt("Maybe you'll feel", 0, 20);
        LCD.WriteAt("More at home", 0, 40);
        LCD.WriteAt("Here in hell with me\\", 0, 60);
        Sleep(5.0);
        LCD.Clear();
    }
    else { //User was an adult
        LCD.Clear();
        deathMann.Draw(200, 100);
        LCD.SetFontColor(RED);
        LCD.WriteAt("\\You have been ", 0, 0);
        LCD.WriteAt("A very bad person.", 0, 20);
        Sleep(2.0);
        LCD.WriteAt("Prepare for retribution", 0, 40);
        LCD.WriteAt("Enjoy hell, idiot!\\", 0, 60);
        Sleep(4.0);
    }

    LCD.Clear();
    LCD.SetFontColor(RED);
    LCD.WriteAt("Dhar Mann proceeds", 0, 0);
    LCD.WriteAt("To devour your heart", 0, 20);
    LCD.WriteAt("Using his Dhar Mouth.", 0, 40);
    Sleep(5.0);

    LCD.Clear();
    weightBack.Draw(0 ,0);
    dharMouth.Draw(160, 90);
    Sleep(0.3);

    LCD.Clear();
    weightBack.Draw(0 ,0);
    dharMouth.Draw(135, 80);
    Sleep(0.3);

    LCD.Clear();
    weightBack.Draw(0 ,0);
    dharMouth.Draw(105, 85);
    Sleep(0.3);

    LCD.Clear();
    little_Bite.Draw(0 ,0);
    dharMouth.Draw(105, 95);
    Sleep(0.3);

```

```

        LCD.Clear();
        big_Bite.Draw(0,0);
        dharMouth.Draw(95, 95);
        Sleep(0.3);

        LCD.Clear();
        huge_Bite.Draw(0,0);
        dharMouth.Draw(75, 95);
        Sleep(0.3);

        LCD.Clear();
        huge_Bite.Draw(0,0);
        dharMouth.Draw(125, 100);
        Sleep(5.0);
    }
    else if(moralityScore < 15) { //User has been mid asf (-14 to +14 score,
Purgatory)
        dharMann.Open("dhar_MannFEH.pic");

        if(age == 1) { //User was a child
            LCD.Clear();
            dharMann.Draw(200, 100);
            LCD.WriteAt("\You called?\\"", 0, 0);
            Sleep(2.0);
        }

        LCD.Clear();
        dharMann.Draw(200, 100);
        LCD.WriteAt("Dhar Mann weighs your soul", 0, 0);
        LCD.WriteAt("Against a feather", 0, 20);
        Sleep(3.0);
        LCD.Clear();
        weightBack.Draw(0,0);
        dharMann.Draw(200, 100);
        Sleep(3.0);
        LCD.Clear();
        dharMann.Draw(200, 100);
        LCD.WriteAt("He deems it very meh.", 0, 0);
        LCD.WriteAt("It belongs to purgatory.", 0, 20);
        Sleep(3.0);
        LCD.Clear();

        purgatoryRandom();
    }

```

```

else { //User has been good, score from 0-100
    heavenMann.Open("Heaven_MannFEH.pic");
    wheatHeaven.Open("Wheat_HeavenFEH.pic");

    if(age == 1) { //User was a child
        LCD.Clear();
        heavenMann.Draw(200, 100);
        LCD.SetFontColor(WHITE);
        LCD.WriteAt("\nYou called?\n", 0, 0);
        Sleep(2.0);
    }

    LCD.Clear();
    heavenMann.Draw(200, 100);
    LCD.SetFontColor(WHITE);
    LCD.WriteAt("The Dhar-lai-lama Mann", 0, 0);
    LCD.WriteAt("Proceeds to weigh your", 0, 20);
    LCD.WriteAt("Soul against a feather.", 0, 40);
    Sleep(3.0);
    LCD.Clear();
    weightBack.Draw(0, 0);
    heavenMann.Draw(200, 100);
    Sleep(3.0);
    LCD.Clear();
    heavenMann.Draw(200, 100);
    LCD.WriteAt("He deems it worthy", 0, 0);
    LCD.WriteAt("Of heaven.", 0, 20);
    Sleep(3.0);
    LCD.Clear();
    wheatHeaven.Draw(0, 0);
    Sleep(3.0);
}

//Closes all the images used in this function.
weightBack.Close();
deathMann.Close();
dharMouth.Close();
little_Bite.Close();
big_Bite.Close();
huge_Bite.Close();
dharMann.Close();
heavenMann.Close();
wheatHeaven.Close();
}

```

```

//Constructor function for the Stats class. Written by Aayush.
Stats::Stats()
{
    numWins = 0;
    numLosses = 0;
    numDraws = 0;
    highScore = 0;
    lowScore = 0;
    moralityScore = 0;
}

/*Member function of the Stats class. When called, will update the object's stats
depending on how the user
performed in their most recent adventure. Written by Aayush.*/
void Stats::updateStats() {
    float x, y;

    LCD.Clear();

    if (moralityScore <= -15) {
        numLosses += 1;
    } else if (moralityScore <= 14) {
        numDraws += 1;
    } else {
        numWins += 1;
    }

    if (moralityScore > highScore) {
        highScore = moralityScore;
    } else if (moralityScore < lowScore) {
        lowScore = moralityScore;
    }
}

/*Member function of the Stats class. When called, will display the user's
cumulative stats for each adventure
they took in the run. Written by Aayush.*/
void Stats::displayStats() {
    float x, y;

    LCD.Clear();
    LCD.WriteAt("Morality High Score:", 0, 0);
    LCD.WriteAt(highScore, 240, 0);
    LCD.WriteAt("Morality Low Score:", 0, 20);
    LCD.WriteAt(lowScore, 230, 20);
}

```

```

    LCD.WriteAt("Number of Wins: ", 0, 40);
    LCD.WriteAt(numWins, 180, 40);
    LCD.WriteAt("Number of Losses: ", 0, 60);
    LCD.WriteAt(numLosses, 205, 60);
    LCD.WriteAt("Number of Draws: ", 0, 80);
    LCD.WriteAt(numDraws, 195, 80);
    LCD.WriteAt("Click to", 100, y_mid);
    LCD.WriteAt("Return to main menu", 45, 140);
    Sleep(0.5); //Waits for half a second
    while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something
    while(LCD.Touch(&x, &y)) {} //Wait until the user releases
}

/*Will display the credits for creating the game, waits for the user to click and
return to the main menu.
Co-written by Ian and Aayush.*/
void credits() {
    float x, y;

    LCD.Clear();
    LCD.WriteAt("Credits:", 110, 0);
    LCD.WriteAt("Developers: Aayush Paul,", 0, 40);
    LCD.WriteAt("                Ian Mansur", 0, 60);
    LCD.WriteAt("Return to main menu", 45, y_mid);
    Sleep(0.5); //Waits for half a second
    while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something
    while(LCD.Touch(&x, &y)) {} //Wait until the user releases
}

/*This function is called if the user scores between -15 and +15 in an adventure.
This is meant to simulate
purgatory by forcing the user to perform a mundane task (clicking a box over and
over) to continue playing.
This function also has a progress bar so the user doesn't think the purgatory is
infinite. Additionally, the box
the user is prompted to click moves around the screen by making use of randomly
generated coordinates.
To get these random coordinates, the FEH Proteus website was used as a reference.
This function was co-written by both Ian and Aayush. */
void purgatoryRandom() {
    LCD.Clear();

    int numTimes = 0, a, b, p1 = 20;

```

```

float x, y;

//15 rectangles or boxes will be drawn at random x and y coordinates on the
screen.
while (p1 < 300) {
    LCD.Clear();
    LCD.DrawRectangle(20, 0, 300, 20); //Progress bar

    LCD.DrawRectangle(20, 0, p1, 20);
    LCD.FillRectangle(20, 0, p1, 20);

    a = Random.RandInt();
    b = Random.RandInt();

    if((a % 320 > 190)) { //If the box would be made off the screen
        a = 190;
    }

    if((b % 240 > 215)) { //If the box would be made off the screen
        b = 215;
    }

    LCD.DrawRectangle(a, b, 130, 25);
    LCD.WriteAt("Click Here", (a + 5), (b + 5));
    while(!(LCD.Touch(&x, &y))) {} //Wait until the user presses something

    p1 += 10; //Add to progress bar

    while(LCD.Touch(&x, &y)) {} //Wait until the user releases
}
LCD.Clear();
LCD.WriteAt("That wasn't so bad now,", 28, 0);
LCD.WriteAt("Was it?", 120, 20);
Sleep(2.0);
}

```