**Computer Science Summative - Daily Logs** *Eraj*

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| **Date** | **Tasks Completed** | **Next Steps** |
| * ***Setting up*** | | |
| May 19 | * Decided which game we’re creating (Ludo) | * How to create game using pygame |
| May 19 | * Learned basics of pygame and watched a few basic youtube tutorials | * Find images and tools for game |
| May 19 | * Found images for each team’s tokens, board, dice, and dice roll, to display as graphics during the game | * Load images onto pygame |
| May 19 | * Loaded all images into pygame using the ***pygame.image.load*** function by setting them as a variable * Displayed the images using the ***screen.blit*** function | * Create a list of token image variables |
| May 19 | * Created a list of all token image variables being used(red1,red2,...,yellow3,..,green4) | * Make a list for each team’s route across the board |
| May 20 | * Found coordinates of each square on the board, and displayed them in an x,y order * Used these coordinates to make a list of the coordinates of each space on the board each team will travel across (4 lists) | * Combining individual route lists into one list called ***allroutes*** |
| May 20 | * Created a list of lists containing each team’s route list * Will be useful for functions where we need to figure out which team is playing | * Create a list of all the token images being used |
| May 21 | * List containing variable names for each token’s image * List containing string variable names for each token’s image | * Initialize positions of each token |
| May 21 | * Initialized each token’s position on the board as their respective coordinates in their home square   + Using their index value in their route list | * Create a list containing all token positions |
| May 21 | * A list is made containing variables which store each token’s initial position on the board | * Create a list of dice roll images |
| May 22 | * List comprised of 6 variables which are assigned to each dice roll image * Another list containing numbers from 1 to 6 for each roll   + Will be useful for displaying dice roll image according to random generation, as it can just display a specific index value from this list | * Make a list which stores stepped on images |
| May 23 | * List contains 16 variables which store images for each ‘stepped on’ scenario * Another list contains same 16 string variable values | * Create a list containing winning images for each team |
| May 23 | * List has 4 variables which contain a winning image for each team | * Create a list containing coordinates for star image position |
| May 24 | * List of lists contains coordinates for the star image’s route in x,y order | * Create a list containing coordinates for score image position |
| May 24 | * List of lists contains coordinates where the score images need to be blitted | * Create a function which sets up game |
| * ***Main Functions*** | | |
| May 25 | * Created a function which displays all components of the game back where they were or restarts if a new game, when user clicks 'Play' from main menu or 'Back' from rules | * Learn how to use mouse click in pygame |
| May 26 | * Created a function which uses the pygame.event.get function to get mouse click input from user, gets x,y coordinates of the click using pygame.mous.get\_pos function, and returns coordinates | * Make a function which generates random dice roll according to user’s click on dice image |
| May 26 | * Created a function which generates a random dice roll using the random.randint module, checks what number it is between 1 & 6, and displays corresponding dice roll image to users, returns the roll, dice image   + Function updates using the pygame.display.update function | * Make a function which will figure out which team’s turn it is |
| May 27 | * The function finds the square coordinates the user must click within during a particular team’s (color’s), get’s current click coordinates, and turnpos, checks if it’s within coordinates for a specific team, allowing it to know whose turn it is | * Create a function which will check if user is moving a token which will land on another token of their team, or a different team |
| May 27 | * Created a function which takes the token moved and rolls to check if it’s on the same position as another one of it’s own team’s token, or a different team’s token | * Figure out the x and y change between a token’s current position and new position |
| May 28 | * Made a function which determines the slope change between the chosen token’s current position and the new position it needs to be moved to | * Make a function which sends back tokens to home position when stepped on |
| May 29 | * Created a function which changes the position of a token back to its original home position when stepped on by another team’s token, returns x change, y change, and token position | * Create function which will move token to it’s new position only if it doesn’t land on another token |
| May 30 | * Created a function which will take in token, rolls, dice image as parameters, finds the new position, calculates slope change to get to the new position, and changes token’s position to it’s new position | * Make a function which will remove the dice image after it’s displayed |
| May 31 | * Function removes the dice roll image and displays the dice image again so user can click to generate a roll   + gets the rectangle coordinates for all 4 corners of the dice image and sets it equal to a variable called position, blits the dice image at position, updates   + Blits ludo background at position, blits dice, updates | * Create a function/list which will track the each team’s home points |
| June 1 | * Made a function which will run whenever change pos is called, and when the new index value for the token is larger than it’s route list; it’ll track home points for each team(every time a team’s token completes the route successfully and passes through it’s respective home path) | * Create a function which will display each team’s score |
| June 2 | * Created a function which will use ***numberoftokens*** and ***token*** as parameters, and display a picture corresponding to the number of home points(tokens) in the centre of each team’s home square using the ***showhometokens*** list | * Create a function which will display a message for the team that wins |
| June 2 | * Made a function which takes pos as parameters, and displays a winning message at the centre of the screen, for the first team to get 4 home points | * Create a function to display the main menu for the user |
| June 3 | * Created a function which displays the main menu image, and leads to different screens according to user’s click(play, rules, quit) | * Create a function which switches to rules image when user chooses that option |
| June 3 | * Created a function which allows user to go back to the rules image from the main menu or the bottom menu, and to return to game once they click on back, using if, elif, else statements and by checking x,y coordinates of click | * Create a function to play the game |
| June 4 | * Function lets user play game | * Create a function to switch between different screens(main menu, rules, game, quit) |
| June 5-10 | * Error checking by appending game results to notepad file, added sounds & music, simplified code through the use of functions, added comments, and fixed white space |  |
| * *Create some extra functions which are needed to perform additional tasks in each of the main functions above* | | |
| May 21 | * Created a function which displays the new screen on top of the old one , and updates | * Create a function to move the star image according to which team’s turn it is |
| May 22 | * Function removes the old star image, finds slope change to display it at new position, and displays it at next team’s home square | * Create a function which will determine route of a given token |
| May 22 | * Created a function which takes in token as parameters, and returns the route it’s in(which team’s token it is) | * Make a function which calculates the current position of a token |
| May 22 | * Function takes in token as parameters, and returns the current position of the token on the board | * A function that lets the user quit anytime |
| May 23 | * While the user has clicked on the quit option, message is displayed asking if they want to quit for sure or not   + If yes, ends program   + Else, it returns back to the screen they clicked ‘Quit’ on | * A function to get the centre coordinates of every token |
| May 23 | * Function takes in token as parameters, and returns the centre coordinates of the token image   + Removing images in pygame requires centre coordinates of the image | * A function which displays pop up messages in certain situations |
| May 23 | * Function displays specific images for specific situations in the centre of the screen | * Create a function to remove pop up messages |
| May 24 | * Function uses one of the main functions to get the coordinates of the four corners of the pop up message, and displays the ludo background in those coordinates when a mouse click is detected anywhere on the screen | * Create a function to display the appropriate ‘stepped on’ image |
| May 24 | * Created a function which figures out which one of the 12 possible images to blit when a token is stepped on by another team’s token | * Create a function to reset game back to it’s original state |
| May 24 | * Function resets all tokens, roll, hometoken counter, and the star position so the program is ready for a new game. | * Create a function to track errors |
| May 24 | * Function is called every time user rolls dice and chooses a token to move * Keeps track of user's every move during any game, and was used to find errors, as it writes game results onto a notepad file |  |