

Planning for Lunar Lander

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1. Initialize the game canvas using a setup function, setting its width and height to desired values, background color, and set framerate to 30.
2. Creating a 'startScreen()' function for the start page. Creating the style of the start page, the background with a 'start' button, and a short introduction to the game.
3. Creating a 'rocket(x, y)' function to draw a rocket that can be moved by changing parameters 'x' and 'y's value.
4. Creating a 'rocketFire()' function to draw the rocket fire.
5. Creating a 'gameScreen()' function, draw the background of the game page (grass and ground)
6. Creating a 'resultScreen()' function to draw the background of the result page with a 'Restart' button.
7. Making the 3 pages in the right order: Make a statement: Let state = 'start' , then creating a 'draw' self-call function. creating an 'if- else' statement inside the function, when 'state' = 'start', call the 'startScreen()' function. when 'state' = 'game', call the 'gameScreen()' function. when 'state' = 'result', call the 'resultScreen()' function.
8. Write a 'mouseClicked()' function, by using 'if – else' statement to control that user can only start the game by clicking the 'start' bottom in the startScreen page, restart the game by clicking the 'restart' button in the resultScreen page. Before restarting the game, set the position of y to the original position so that the rocket will be in the sky in the new game.
9. making a statement:
 - let startSpeed = 1;
 - let speed = startSpeed;
 - let acceleration = 1.1;
 - let deacceleration = 0.9;
 - let hasLanded = false;
 - let x = 150; (set the X - axis of the rocket)
 - let y = 70; (set the Y - axis of the rocket)
 - let didWin = false;

10. Inside the 'gameScreen()' function:

- creating a if – else statement. when the lowest part of the rocket touched ground, hasLanded = true;
- creating another if – else statement. When hasLanded = false, y = y + speed. Making the rocket moves downward.

- inside this statement, creating another if- else statement ---

- if (keyIsDown(38)) { rocketFire(x, y);} else{} ---- only when user press the upper key, will call the rocketFire(x, y) function, show the rocket fire at the button.

- Inside 'if (keyIsDown(38)) { rocketFire(x, y);}', creating another if statement:

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if (speed > 0.5) { speed = speed * deacceleration;}
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- This statement controls the speed and allows the rocket to land slowly without stopping in the air because the speed is too small.
- Inside the else curly brackets of 'if (keyIsDown(38)) { rocketFire(x, y);} else{}' statement. Creating an if statement.

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if (speed < 8) { speed = speed * acceleration;}
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- To ensure the rocket move down in a certain speed if we don't press the upper key.
- Setting up game mechanics by creating two if statements. When the lowest part of the rocket touched the ground, hasLanded = true; game over. then create a second if-else statement within this statement to win the game when speed <= 3, otherwise, lose the game.
- using the setTimeout() method make the state change to 'result' after a 1200 millisecond.

11. set hasLanded = false; in the startScreen function so that the user can restart the game normally

12. Inside the 'resultScreen()' function, using 'if – else' statement to when 'didWin' = true, shows the 'you win' text, otherwise 'you lose!'.