SIT102 – Introduction to Programming

7.2D Custom Program Design Submission

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THEORY ANSWERS

Question 1: Provide a brief description of your program here. What does your program do?

My program is an extension of the 5.2 space game task.

The game now allows you to register a score when you find a planet this triggers a new planet to be randomly created some where in the game. You can use the distance to planet measurement in the top left of the screen to help find your next planet. When you have found 11 planets your mission is complete and the game ends.

I have also added asteroids into the game using the bitmap “PLUTO” (not actually a planet). They fly through the screen and if you get hit by one you will lose health and a new asteroid is created. When you have lost all your health the game is over, I’ve also added into the asteroid function an If statement so if the asteroid misses you and gets too far away a new asteroid is created.

Question 2: Briefly describe the custom data types that you have created for this program. What new structs and/or enums did you design for this program? How are they used?

Inside the struct player_data I have added:

Int score that keeps track of the players score it is increased by 1 when a planet is found.

float health it gets initialized to 100 at the start of the game and helps track the players health it is decreased by 5 every time an asteroid hit the player.

Vector <int> planets_found I have used this vector to track how many planets have been found by the player. The game ends after 11 planets have been found. I Know I could have made it once the players score reaches 11 the game ends but I decided to create a vector to show I have an understanding of how dynamic arrays work and how to add and remove from them.

Inside the struct planet data I have added:
Vector <sprite> asteroid sprite: I was having some issues with the asteroid seemingly taking Health from a player without colliding with the player and if I tried using rnd range to control the position of the asteroid I was getting some strange results. After I created the vector of asteroids and deleted with pop_back() before a new asteroid was created the game has been working a lot better.

Question 3: Briefly describe the functions and procedures that you created for this program. What does each function/procedure do for the program, and how do they work together? Note: you can diagram this using the information from our week 10 topic, rather than write a description.

The functions and procedures in red are the new ones I added to extend the program.