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APCS2 pd1
Final Project Proposal
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Proposal

For our final project, we decided to make an Island Survival Game. The goal of the game is to stay alive in an island setting as long as possible, where many things challenge one's survival. The game will ask the user to do different things, such as forage for sources of food, water, shelter, and other resources. The program will keep track of time, and many other factors will determine the player's survival, such as natural disasters, predators, and onset of health problems. Some GUI/processing will be implemented.

Functions

- Player generates with appropriate stats, according to user input of age, height, and weight.
- The player appears on a random location on the shore of the island. The island is generated, and a map of it is included for movement of the player.
- Player must search for food, water, and shelter, for they cannot survive long without them. Resources are difficult to find, but knowledge of where resources are located aids the player.
- Player is constantly at risk for malnourishment, natural disasters, and predators. Events can occur at intervals of time during the game.
- Time is recorded by the program and the success of the player is determined by the amount of time they survived.
- The player will have two supplies of items, one that they carry with them and one that they leave at their shelter. These items are sorted and displayed in order of importance, a priority queue.
- The player may have a Stack of a certain item, such as tools or weapons that they can access at a certain interval of time, which will be stored in the island class.
- The player will come across certain plants that have a supply of food as well as leaves. When nutrients (food or leaves) are removed from the plant, they are removed from the top down. This will simulate a Queue
- We will have challenges for the player where they will navigate a maze to obtain certain prizes.
- Fishing for fish can be accomplished if the player has required the adequate resources to make a fish net, which is designed like a linked list.

TERM 2 TOPIC SUMMARY

Priority Queue: Items that the player has with them and stored items.
Queue: Plants that grow food, meaning the first fruit grown is the first fruit picked

Stack: Animals and Plants are stored in stacks within the list of items, as well as other duplicates of items. The roof of a shelter can also be a stack, and rain removes the top of the stack gradually.
Linked List: Fishing is accomplished by means of a fish net, which is designed as a linked list. Each node can hold one fish.
Recursive Backtracking: Maze challenge