Design Document

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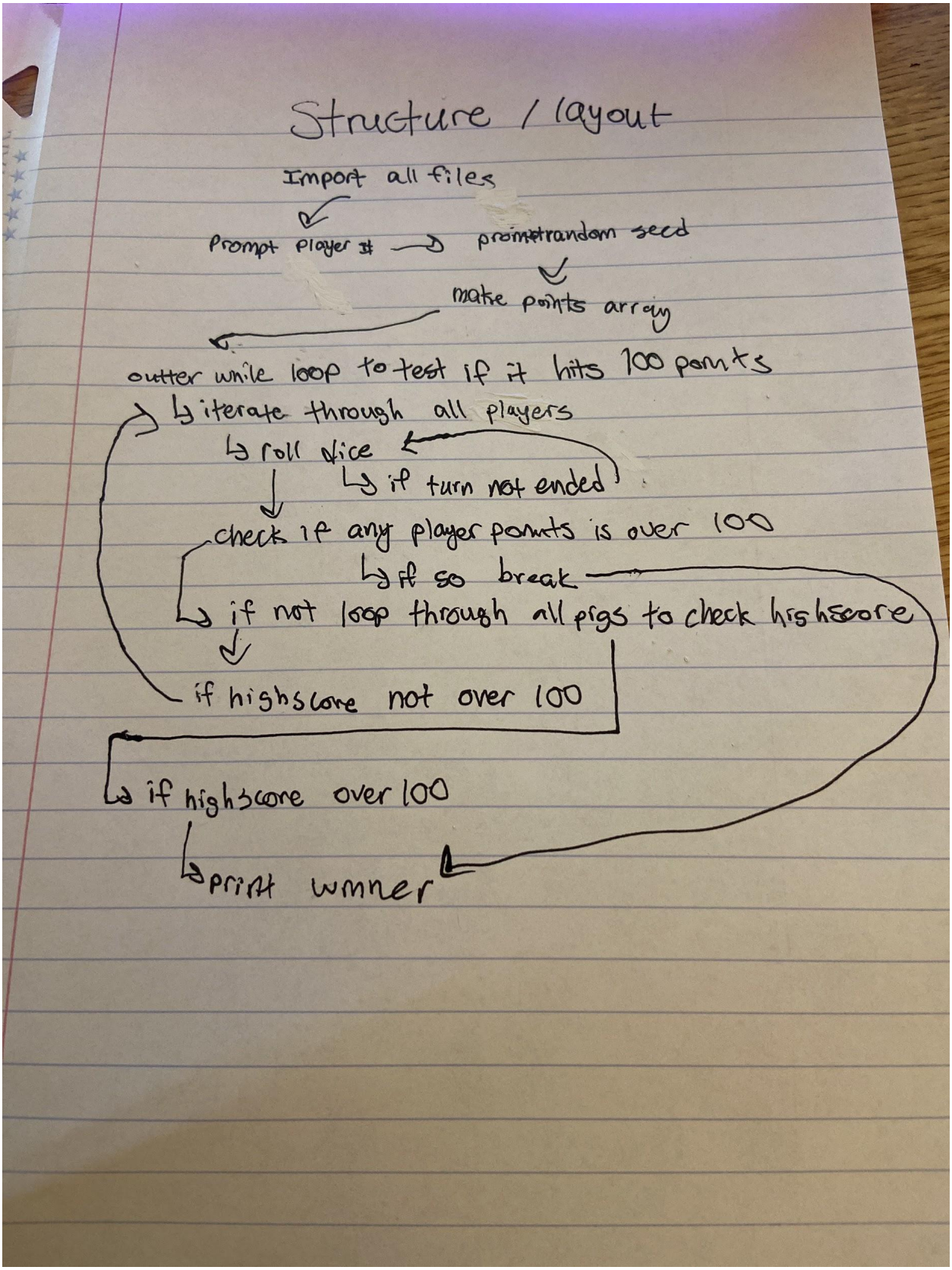
Assignment 1: Pass the Pigs

Description:

In this game, we have a certain number of players from 2 to 10, depending on user input. There will be an inputted random seed number within a positive 32 bit Integer that will decide the seed of where our random number will be picked from. The players, or pigs, will roll a dice after one another and consequently receive a certain amount of points as well as decide if they will or will not receive another roll depending on what they land on. The sequence will keep going until one pig reaches 100 points.

Structure:


Structure / layout
Import all files
Prompt player #
printstrandom seed
make points array
outter while loop to test if it hits 100 points
iterate through all players
roll dice
if turn not ended
check if any player points is over 100
if so break
if not loop through all pigs to check hishscore
if highscore not over 100
if highscore over 100
print winner

Pseudocode:

import all files
    Set enumeration
    Set pig array
    Set variables
    Prompt user for players
    Scan that number and check if it's within bounds and if it's an integer
    Prompt user for seed number
    Scan that number and check if it's within bounds and if it's an integer
    Set random seed
    Create a points array
    Use a while loop to run until points hit 100 or more
        Using a for loop to loop through all the pigs
            Set a temp variable to 0
            Use a while loop to keep running until temp = 1
                "Roll" a random number
                Use if statements to check what the pig landed on
                Assign points to that player relative to what the dice landed on
                If no extra turns are assigned, set temp to 1 so loop will break
                Check if any player has points over 100, if so break
                    Note down winner
        Using another for loop, loop through all the pigs
            Iterate through the points array and compare it to top
                If a players points is bigger than top, set top to that players points
                    Note down which player is holding down top points
    Print the winner name and the amount of points they have

Credit:

1. I took the code provided by Professor Long in the Assignment 1 description. Notably, the enumeration set up as well as the error prompts.
2. I read the C textbook for explanation of syntax as well as clarifying some ideas like enumeration and arrays.

Files:

Pig.c - This is the main file which has the code needed for the program to run.
Names.h- A header file that needs to be imported into the Pig.c file so we can access the names array of the players.
Makefile- This allows us to use clang and compile our program.
Readme.md- In markdown format it tells us how to run the program and how the program was made.
Design pdf- This is how I started thinking about how to code the program.

Errors (So far):

- I had a lot of syntax errors since I'm not used to C programming. This was easily resolved as I went because I could just compile my program and see the errors in my code. Most of the syntax errors were within my print statements because in my opinion I thought this super unique and different compared to other languages.
- I didn't realize that Professor Long's enumeration setup was the way to go, I thought I had to make my own but this was easily resolved once I did more research towards how enumeration works.
- I was out of range within my for loop where I was looping through my players/pigs. Again, this was an easy fix when I compiled it because I easily realized that I just needed to tweak it a bit.
- Initially, I was trying to make an empty array set to an empty set but I soon realized that wasn't possible but I realized I was able to declare an empty set without setting it equal to anything.
- I realized that I can't be using fprintf for things that don't have any error.

- I had a corrupt repository and I learned that from now on I need to be committing more into my git.
- I had to add another for loop to loop through my points array to see who had the top points.
- I realized I need a placeholder to see who won the game so I can print out the winner.
- Had to do some more research into scanf so I can check if the user doesn't input an acceptable integer.
- Once I had finished all the logic coding, I had to debug and fix the format issue to be on par with the examples.