

° ❁ *Assignment 1: Design* ❁ °

PASS THE PIGS

About the game:

The game “Pass the Pigs” involves 2 to 10 players. Each player rolls the pig until the pig lands on its side or they win. Each position of the pig gives a different number of points. The winner is the person who accumulates 100 points or more.

About the file pig.c:

Input(s): number of players, random seed

Output: the program simulates a game with the specified number of people. We get to see the gameplay and the winner along with how many points they won.

Other files involved:

Makefile, names.h, README.md

Pseudocode/solution breakdown:

❁ Include all the necessary files (names, standard input/output, library, etc) based on the code

❁ Set up pig

Enumerate positions

Declare an array for pig (just as in the assignment instructions)

❁ Set up players

Declare a variable for number of players

Ask how many players will be playing and scan how many players input by the user

If the number of players is not valid (meaning the scanned value is invalid, or the number of players is not within 2-10):

 Give error message (just like in the assignment instructions)

 Set up 2 players instead

❁ Set up points

Declare an array to keep track of points (called “points”)

For each person (until we get through “numplayer” number of players):

 Modify the array to start the player off with 0 points

❁ Set up seed

Ask for a random seed and scan the random seed that is input by the user

If the seed isn’t valid (scanned value is invalid, or the seed is not between 0 and maximum):

 Give error message (just as in the assignment instructions)

 Set seed as 2021 instead

⌘ Set the start point for random seed

⌘ Begin the actual game

Declare a variable to check for a win

While no one has won:

 For each player (until we get through all number of players):

 Print who is rolling the pig

 ⌘ Begin a player's round

 Declare a variable to track the end of a player's round

 While it's not the end of the round:

 Roll the die randomly

 Possibility: rolled a jowler

 Print that the pig landed on ear

 Add 5 points to the player

 Break out of this loop

 Next possibility: rolled a razorback

 Print that the pig landed on back

 Add 10 points to the player

 Break out of this loop

 Next possibility: rolled a trotter

 Print that the player landed upright

 Add 10 points to the player

 Break out of this loop

 Next possibility: rolled a snouter

 Print that the pig landed on snout

 Add 15 points to the player

 Break out of this loop

 Next possibility: rolled a side

 Print that the pig landed on side

 Don't add points to the player

 End of this player's round

 Break out of this loop

 ⌘ Evaluate points and re-evaluate if it's the end of this round

 If player has won (meaning they have 100 points or more):

 ⌘ Announce the winner

 Print who won and how much points they received

 End of round

 If it's the end of the round (or they rolled a side):

 Move on to the next player (break the loop)

 ⌘ After the player has finished, before going to the next player

 If a player has won, end the game