Assignment 1
Pass The Pigs

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Due April 26th 2023, 11:59 PM

1 Purpose

The purpose of this assignment is to create a simplified version of the hit game Pass the Pigs.

2 Using the Program

In order to use the program, compile and run the file pig.c. It will ask for two inputs; the number of players and a random number generation seed. If no or incorrect values are given, the program will default to two players and the default seed 2023.

3 Program Design

The main program will be in the file pig.c and a list of names in names.h. In addition, the program will be using built-in libraries including stdio.h, stdlib.h.

4 Data Structures

The main data structures are the input names in the form of an array and the creation of a player structure used to store player names and score. The input array will be a list of player names saved as an array of strings.

5 Algorithms

Main Routine:

Ask for input; number of players

(optional) Ask for input; random number generator seed

Iterate through the input player list, creating a score list that starts at 0 for each player

For each player:

While the number rolled is not equal to 0:

Generate a random number from 0-6

Award points based on value rolled by using a ordered points list, giving the player points based on the index of the roll

Check if the point value is above 100, and if so proclaim the player the winner of the game, as well as break the while loop

If no player has won at the end of the first iteration, reiterate through the list until someone has won.

6 Results

```
Number of players (2 to 10)? 3
Random-number seed? 20
Margaret Hamilton
 rolls 0, has 0
Katherine Johnson
 rolls 15, has 15
 rolls 0, has 15
Joy Buolamwini
 rolls 0, has 0
Margaret Hamilton
 rolls 0, has 0
Katherine Johnson
 rolls 0, has 15
Joy Buolamwini
 rolls 0, has 0
Margaret Hamilton
```

The program running

7 References

The slides

“Random(3) - Linux Man Page.” Random(3): Random Number Generator - Linux Man Page, https://linux.die.net/man/3/random.