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Assignment 1 - Design Document

Description:

This program is meant to simulate a rolling pig game. It can be played with 2 to 10 players inclusive. Each player will take turns rolling the pig to see what position it lands in. There are 7 different positions the pig can land in. If the pig lands on the razorback or trotter position, the player earns 10 points and they get to roll the pig again. If the pig lands in the snouter position, the player earns 15 points and gets to roll again. If the pig lands on its ear, the player earns 5 points and once again gets to roll again. However, if the player rolls the pig and it lands on its side, the player earns no points and their turn is over. It will be the next player's turn to roll the pig. The game will go on until one player has a score of 100 or higher.

Pseudocode:

Assign each of the 7 pig positions to a number and put them all into an array.

Initialize a random number generator to accept a seed number so results are replicable by graders.

Ask the user for an integer to input.
If integer is not an integer that is between 2 and 10 inclusive
    Print error message "Improper program usage\n"
    Set number of players to 2 by default
Else
    Set number of players to user input
Create an array named "scores" with a length of whatever the number of players is.

Ask the user to enter a seed number.
If seed number is not valid
    Print error message "Using 2021 for seed number instead\n".
    Set seed number to 2021 by default.
Else
    Set seed number to whatever user inputted.

Set the score for each player to 0.

Player = 0
While True:
    Print name of current player that is rolling.
    Roll a random number corresponding to the pig positions using random number generator.
    If pig position is equal to side

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            If Player == (length of scores array) - 1
                Player = 0
            Else
                Player = Player + 1
        Else
            scores[Player] += value of pig position
            If scores[Player] >= 100
                break
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Congratulate the player who won and end the program.