Assignment 1 – Pass the Pigs

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Purpose

The purpose of this assignment is to get started with C language Programming. It will involve using all the basic programming language facilities: primitive types, loops, conditionals, arrays, and handling user input.

How to Use the Program

First of all, we need to use the command ./pig, and then enter the corresponding number of players and Random-number seed. The final output is the result of the game.

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.

Program Design

1. the Enumerating Positions

Create a new type called “Position”

Any variable of this type like an int

The enum defines contents with the names

The enum {SIDE, RAZORBACK, TROTTER, SNOUTER, JOWLER} Position;

Pseudorandom number from 0 through 6

2. Generating Pseudorandom Numbers

```
#define SEED 2023
int main(void) {
        for (int i = 0; i < 3; i += 1) {
                printf("Set the random seed.\n");
                srandom(SEED);
                for (int j = 0; j < 5; j += 1) {
                        printf(" - generated %lu\n", random());
                }
        }
        return 0;
}
```

Pseudocode and solution

1. Include all the necessary head files (names, standard input/output, library) based on the code
2. Set up pig. Declare an array of pig(in the instruction)
3. Then, set up players. Declare a variable for the number of players, and ask how many players will be playing and scan how many players input by the user.
   If the number of players is not valid:
      Give error message (in the instructions)
      Set up 2 players instead
4. Set up points. Declare an array to keep track of points, which is called "points"
5. Set up seed. Ask for a random seed and scan the input by the user.
   If the seed is not valid:
      Give error message (in the instructions)
      Set seed as 2023 instead
6. Set the start point for random seed
7. Game begin. Declare a variable to check for a win

case1: jowler

points += 5

print the points user get and total points he has

break;

case2: razorback

points += 10

print the points user get and total points he has

break;

case3: trotter

points += 10

print the points user get and total points he has

break;

case4: snouter

points += 15

print the points user get and total points he has

break;

case5: side

points += 0

print the points user get and total points he has

end of this player's round

break;

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

   If players won:

   print the winner

   end of round

   If it's the end of the round:

   move on to the next player

   break;

9. If a player wins the game, the game ends.

Deliverables

1. pig.c
2. report.pdf
3. Makefile
4. names.h

Result

Screenshot of the program running