

asgn1 design doc
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First I receive the number of players from the user.

```
print("How many players")  
num_players = input()
```

I then check if the input is between 2 and 10 and set it to 2 if it is not.

```
if num_players < 2 or num_players > 10:  
    print("Invalid number of players. Using 2 instead.\n")  
    num_players = 2
```

Next I receive the seed used to generate the random rolls for the pig.

```
print("Random seed:")  
seed = input()
```

I then check if the seed is an integer between 0 and the maximum size of an unsigned integer and set it to 2021 if it is not.

```
if seed <= 0 or seed >= pow(2, sizeof(unsigned int)*8 - 1):  
    seed = 2021;
```

I will create a 7 item array that represents the pig to be rolled.

```
pig = [SIDE, SIDE, JOWLER, JOWLER, RAZORBACK, TROTTER,  
       SNOUTER]
```

I will also use a for loop to generate an array of size equal to the number of players which will represent the score.

```
player_scores = []  
for i in range(num_players):  
    player_scores.append(0)
```

To produce the game loop I will use a do...while loop nested within a while loop.

```
i = 0
while true:
    do {
        print(names.h[i], " rolls the pig.. ")
        face = pig[random() % 7]
        if face == JOWLER:
            print("pig lands on ear")
            player_scores[i] += 5
        elif face == RAZORBACK:
            print("pig lands on back")
            player_scores[i] += 10
        elif face == TROTTER:
            print("pig lands upright")
            player_scores[i] += 10
        elif face == SNOUTER:
            print("pig lands on snout")
            player_scores[i] += 15
    }while (face != side)

    if player_scores[i] >= 100:
        print(names.h[i], "wins with ",
              player_scores[i], "points!")
        break

    i += 1
```

Once num_players and seed have been entered, a series of turns of the format:

```
Wilbur rolls the pig... pig lands on side
Charlotte rolls the pig... pig lands on ear pig lands
upright pig lands on back pig lands on side
John rolls the pig... pig lands on ear pig lands upright
pig lands on back pig lands on side
```

should be displayed onto the screen and once 100 points have been accumulated by one of the players a message in this format should be displayed:

Avery wins with 100 points!

Then the program should terminate.