

Introduction to Pig Dice Game

A Game of Luck Created in JavaScript

Game of Pig Rules

There are two players. Each player takes turns rolling a pair of dice. The total of the current player's roll is added to their score, unless either die comes up as a “one”. If this happens, this player's turn is over, and it becomes the other player's turn. After each roll, the current player can either roll again, (assuming a “one” was not rolled) or if the current player feels that luck is running thin, they can pass to the other player. The first player to get 30 points or higher wins.

If a player rolls two “ones” (snake eyes), that player's current score gets zeroed out, and they have to start over, accumulating points from zero.



Do This

With nothing more than the rules on the previous slide, what do you notice about the game from a programming perspective? Take 1-2 minutes and jot down everything you can think of.

- What data needs to be managed in the game?
- What will you need to keep track of?
- What images are needed, if any?
- What flow control structures (sequence, selection and loop) do you think you will need, and for which parts?
- Anything else that comes to mind?

Play the Game of Pig

Go play the pig game a few times. Create a line after your initial notes from above and write down everything you notice! Spend no more than 5 minutes doing this.

- What items match what you took earlier in your notes?
- What pieces of functionality can you identify?
- Use the inspector to see what the different parts of the page are. What happens in each part of the page?
- Anything else you notice?

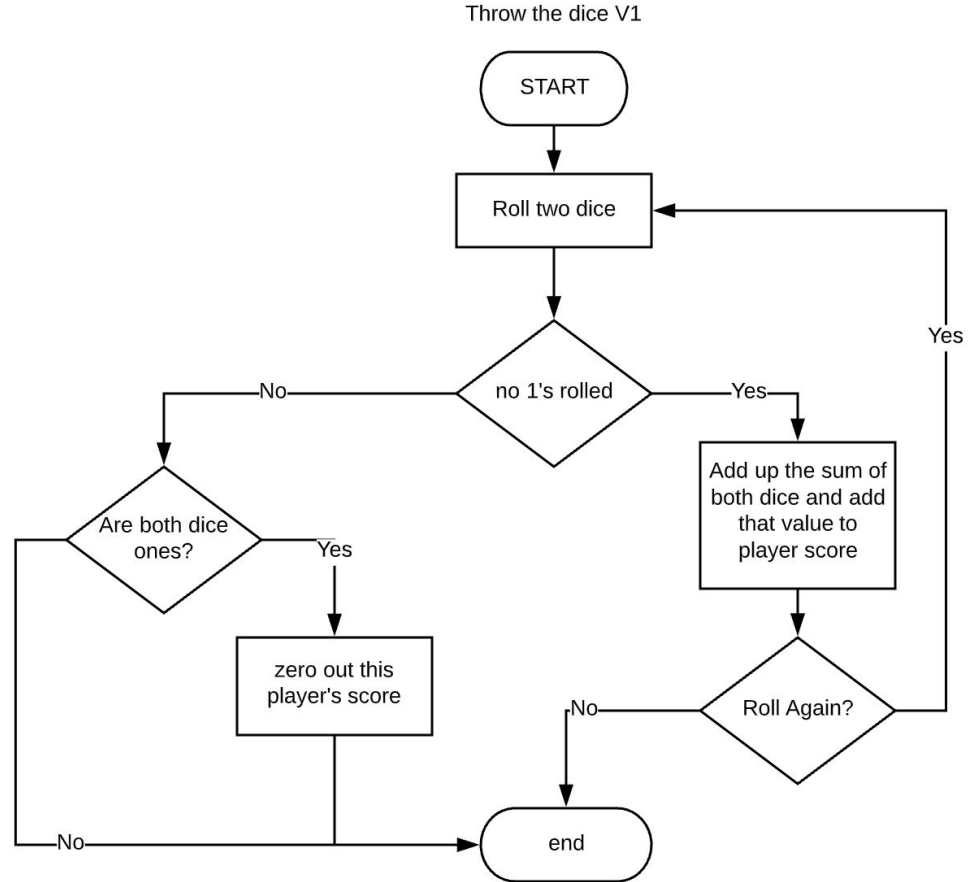
What Functions Do You Need?

Now that you have brainstormed and taken some notes, as well as played around with a finished version of the game, it is time to put on your thinking cap again and think about this:

- If you were going to create this game, where would you start?
- How would you go about it?
- What do you think is the hardest part?
- What are some of the different functions you might need to create this game?
- Anything else worth mentioning?

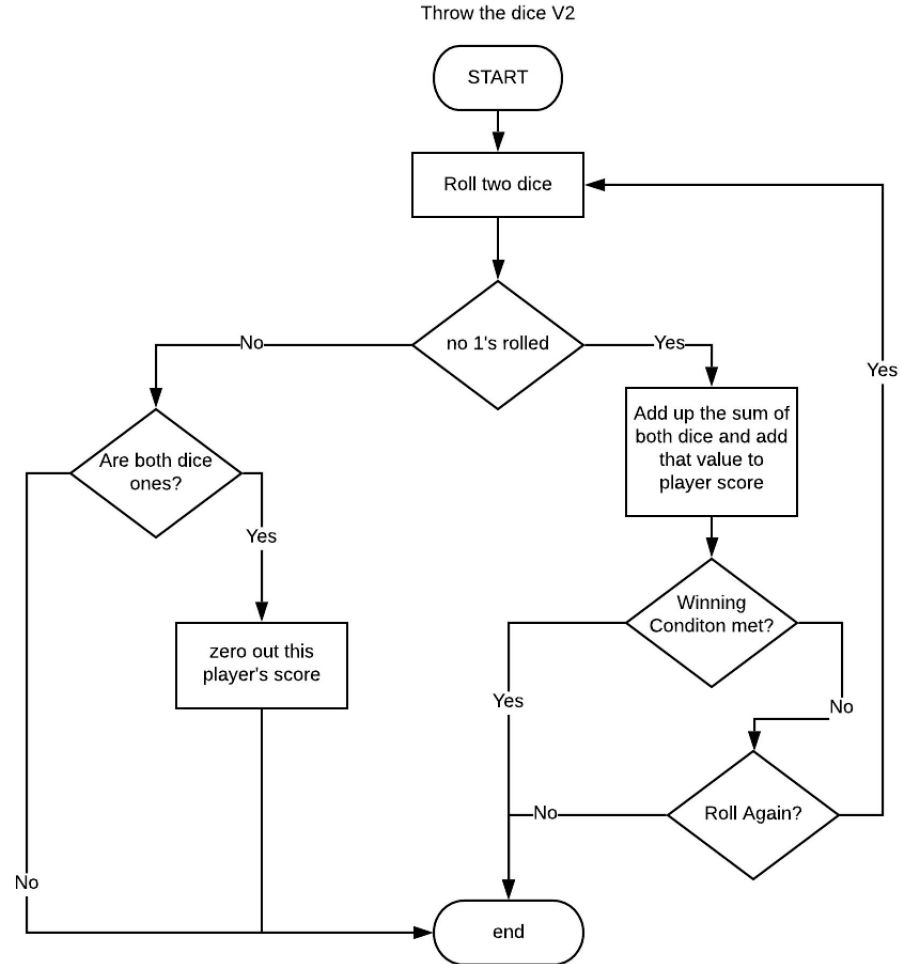
Version 1

Throwing the dice, version 1



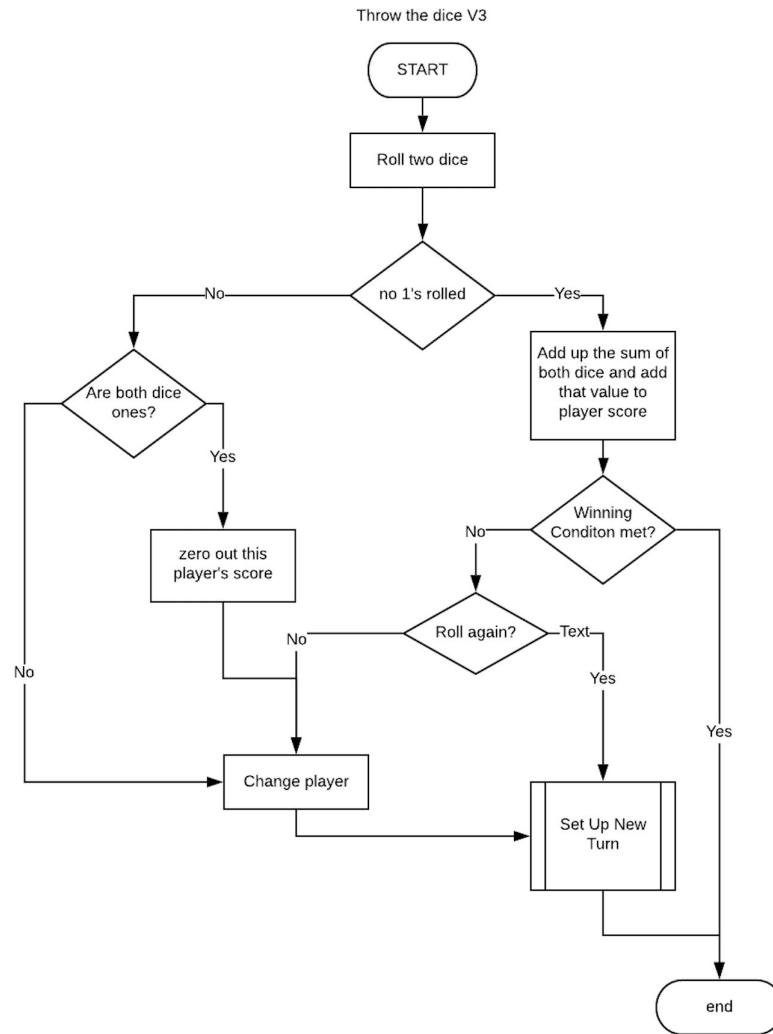
Version 2

This version checks to see if the winning condition is met, but it is starting to get more complicated and a bit confusing.

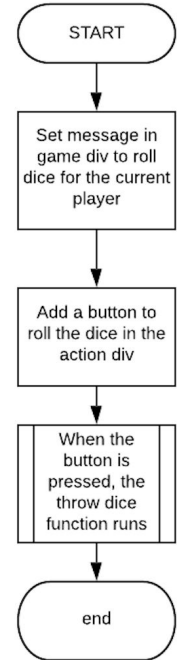


Version 3

This version includes a call to a new function that will set up a new turn for which ever player plays next.



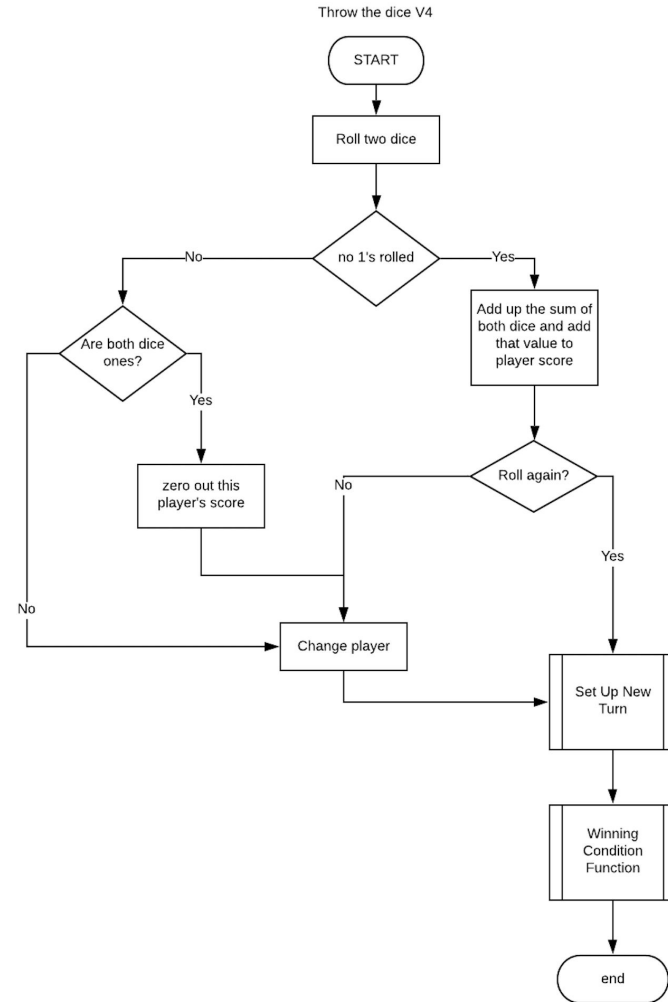
Set Up Turn Function



Version 4

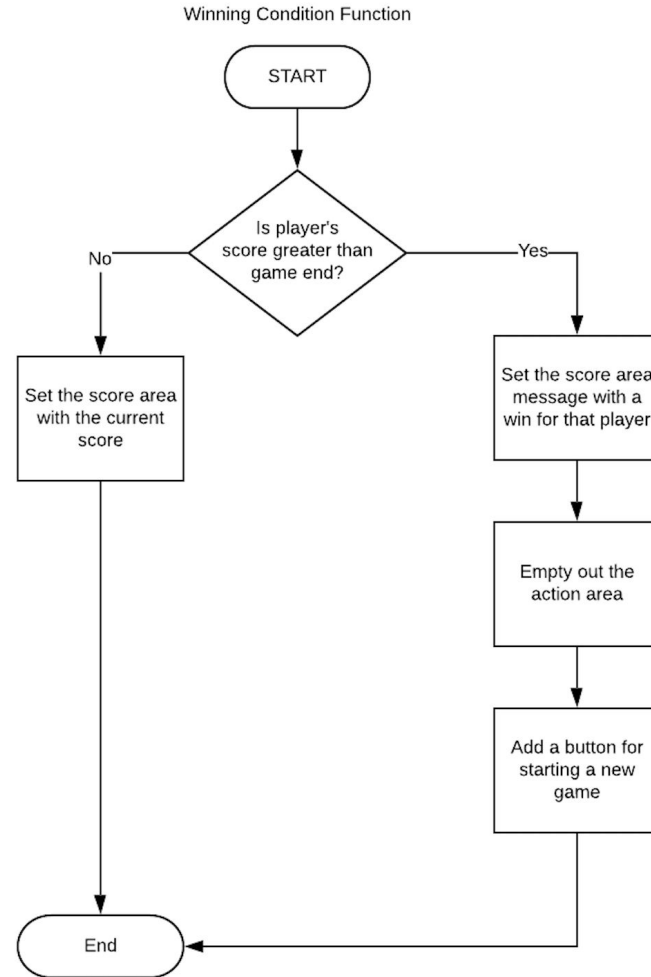
This version breaks off the checking of the winning condition into its own separate function.

The check winning condition function is on the next slide.



Check for a Win

This function checks, after each roll of the dice, if the current player has won.



Summary

One approach to thinking about creating a more complex script is to start at the most difficult part of the script, or the core functionality of the script and work out from there.

Starting with a sketch of a diagram can help you think through the features and functionality you want to create.

Look for ways to simplify it and modularize it.