

Understanding the problem

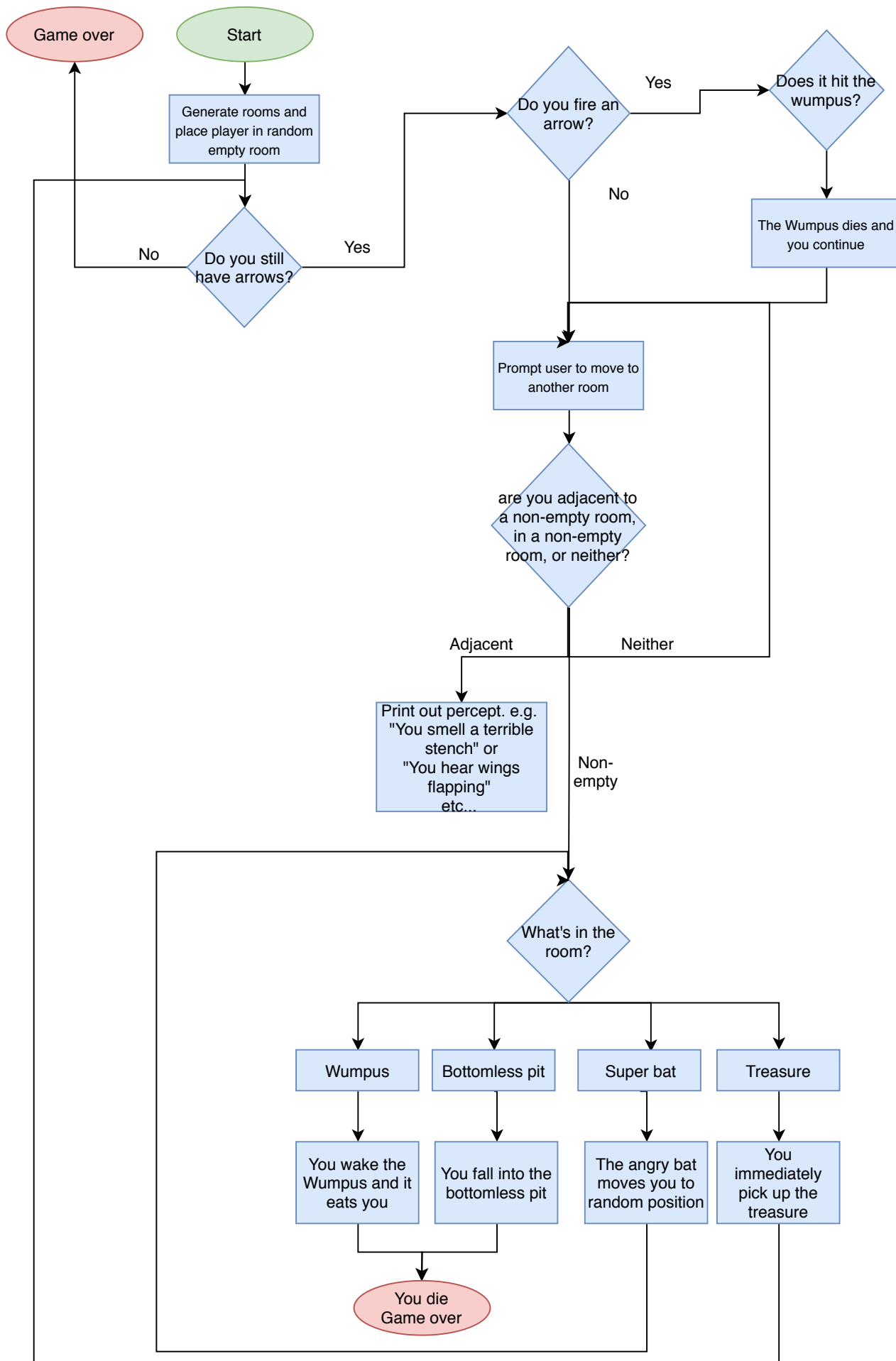
In your own words, explain what YOU think the problem is asking you to do. Document your uncertainties about the problem and anything else that you feel was unclear or vague

The problem asks us to design a game in which a player is within a cave system and seeks to find a chest of gold. The player may move between rooms in which a variety of events can occur. The player may fall into a bottomless pit, be transported by a super bat, find the golden treasure, or wake up the Wumpus. If the player enters the room with the Wumpus, it awakens and proceeds to eat her. Before moving though, the player may choose to fire an arrow (of which she has 3). If the arrow reaches the Wumpus (within a distance of 3 rooms), it dies. Otherwise, the arrow is wasted. Once the player has found the treasure, they must return to the initial room to escape up the escape rope.

Devising a plane/design

Provide an algorithm/pseudo code to help solve the problem. In addition, draw pictures/flow charts to help you devise your plan, as well as any other design decisions you make, such as how to manage your time, how to decompose the problem, where to start first, etc.

I will implement a polymorphic class structure. The event class will be abstract from which the wumpus, super bat, bottomless pit, and golden treasure classes are derived. I will use a “rooms” class to manage a dynamic array of events. With this structure, the flow of the program will be implemented as shown in the following flow chart.



Looking back / testing

This includes any checking/self-reflection you did while solving the problem, which includes using a calculator to make sure the output is correct, testing to make sure your code executes correctly and behaves the way you expect under specific circumstances, using sources of information to make sense of the results, etc. However, you need to think about the input prior to implementation!!!

Input	Expected
player moves near room with event	percept is printed to the screen
player fires arrow in empty direction	“nothing interesting happens...” is printed
player fires arrow at wumpus	“you hear a loud YAAAAARRGH! followed by silence” is printed
player runs out of arrow	“Game over” is printed
Debug mode engaged	detailed map is printed to screen
you walk into bottemless pit	“You fall to your death. Game over!” is printed
you walk into super bat	you are moved to random room