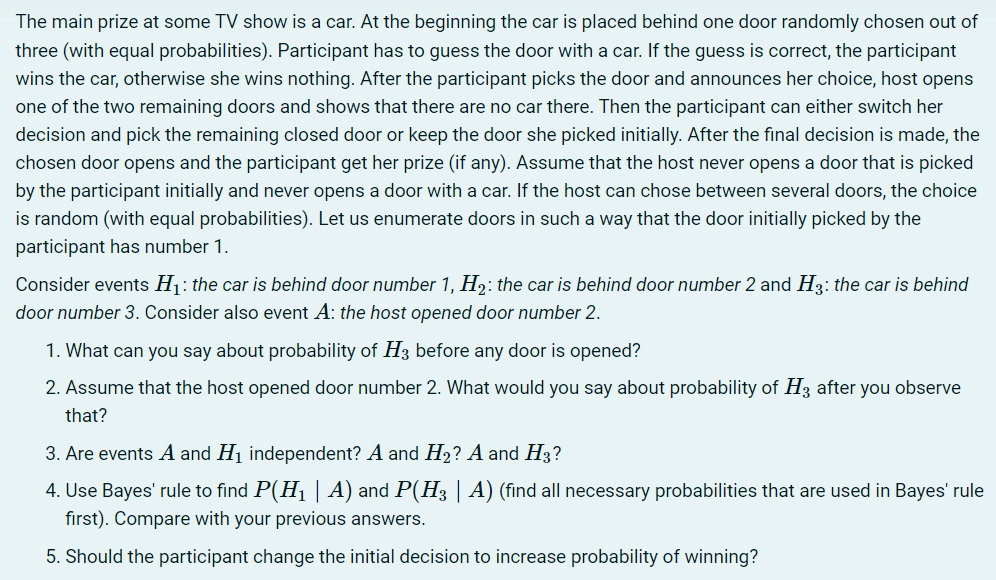
# Task 2



1.First let’s find probabilities of events .

Before the games starts the car is placed behind one of them with equal probabilities, so we can say that .

Probability of host opening any of the 3 doors is also equal 1/3 by default, so .

2. Let us consider a situation in which host opened door number 2, and let’s see what could lead to that.

We know that at the start participant of the show picked door 1. Initially, is 1/3, so . It means, that car is twice as likely to be behind door 2 or 3 as being behind door 1. After host opens door 2 this assumption doesn’t change, car is still twice likely to be behind doors 2 or 3, but as we now know, it isn’t behind door 2. This means, that probability of 2/3 is now being distributed not between doors 2 and 3, but it belongs exclusively to door 3