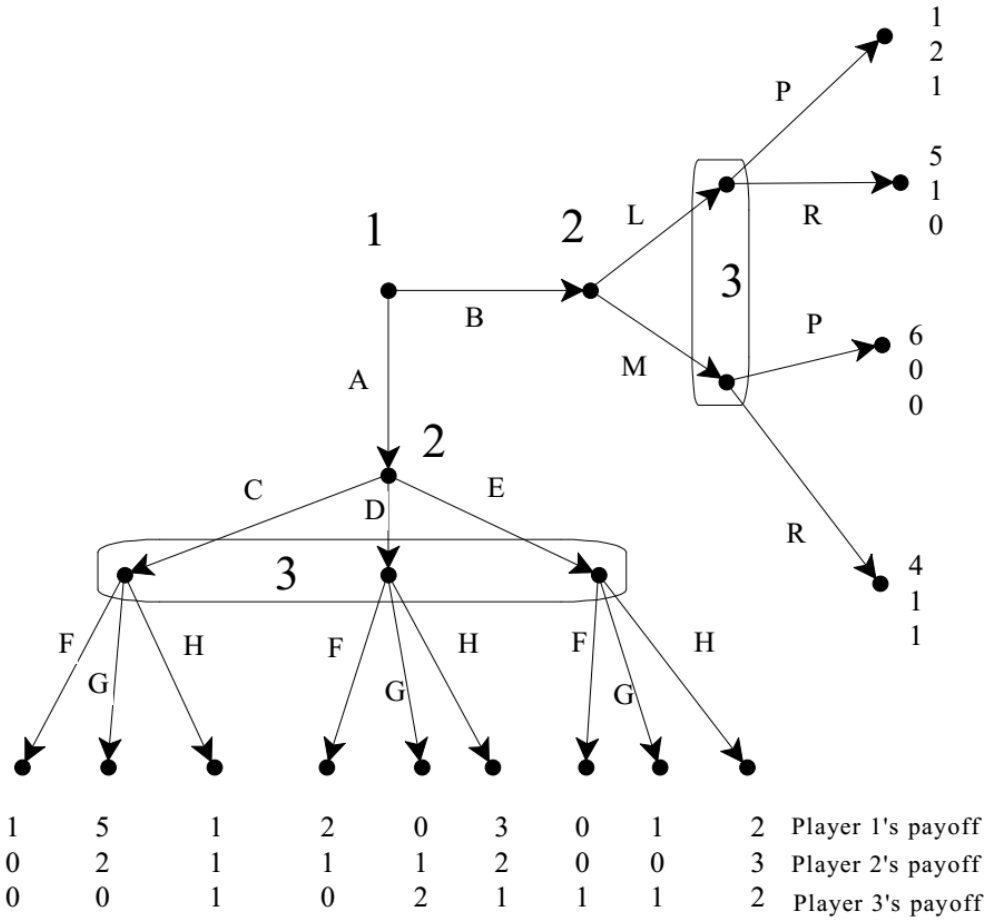
Problem 1. Find the subgame-perfect equilibria of the game below.



Problem 2. Your sketchy cousin comes to you with an "investment opportunity," and he might ask you to lend him \$100 to fund it. (He cannot fund it himself because he is broke.) He knows whether his idea is good or awful, but he doesn't tell you the details; you conclude that there's a 0.50 probability that his idea is good, complementary probability that the idea is just awful. If you do not lend him the money, then he will get angry and throw a brick through your window (because he's really sketchy), which will cost you \$50 to replace.

So to recap:

- If he doesn't ask for a loan, then you both get nothing.
- If it's a good idea and you fund it, then you both profit \$100 from the idea.
- If it's a good idea and you don't fund it, then he finds someone else to fund it. He profits \$100, and throws a brick through your window for offending him so gravely.
- If it's a bad idea and you fund it, then you lose \$100, he is as broke as before.
- If it's a bad idea and you don't fund it, then you get a brick through your window.

Find the SPE, assuming that you are both risk-neutral.