

Question 2

The strategy is simple. As we know the order and the number of throws of our opponent. We just need to throw as many as possible stuff that form a countermeasure with what our opponent throw. The procedures are shown as following

We know the opponent is going to throw rock R_a rounds. Therefore, we use paper to against it. There would be three possible results.

- a) The number of our papers are more than the opponent's. Thus, we win the first part of the game. Now the opponent is going to throw paper. We repeat the procedure (So this time we will throw scissors to counter his papers.)
- b) The number of our papers are less than the opponent's. Thus, the opponent would throw the rest of rock. To reduce the losing mark, we need to throw rock as well to balance his rock.
- c) The number of our papers are equal to the opponent's. Repeat the procedures.

The main idea is greedy method. Every time we always want to get the maximum marks. Thus, we always throw the stuff which can counter opponent's. If we run out of the stuff, we would throw the same stuff as opponent's throw to reduce the losing marks.