Q2

Answer:

Assumptions:

- We know the values of R_a, P_a, S_a
- We know the player will play R_a next P_a and then S_a.
- We know the values of R_b, P_b, S_b
- We are free to play R_b, P_b and S_b however we wish.
- The values for R_a and R_b are not necessarily the same and the same goes for the number of paper and scissors.

Given these assumptions with the values for our rock, paper and scissors hand we will iterate and search in a manner that will maximise the number of points .

Strategy : Instead of trying to optimise winning we will try to minimise losses.

  - To do this we will apply a greedy search on our hand to find the first occurrence of a win and use that i.e. if A played Rock see if you have paper.
  - Else If that is not possible we will find the first occurrence of a play which will result in a draw i.e. if A played rock see if you have Rock if there is no paper.
  - Else if that is not possible the last option is to accept a loss.

- In this way we will exhaust all possible wins before allowing a draw and then finally accepting a loss if all else fails.
- This will optimise our winning because in each iteration, we are playing our most optimal option and only when there is no other option is when we accept a loss.