Question 2

$R_a + P_b + S_c = N$

$let\ R_b = k, P_b = i, S_b = j$

We know the opponent order and the times of rock, paper and scissor.

Like the figure below:

$R_1 R_2 \dots R_a \quad P_1 P_2 \dots P_b \quad S_1 S_2 \dots S_N$

The algorithm idea is that reserve as many paper as possible to counter as many rock as possible and it is the same method for scissor and rock.

Firstly, using as many paper to counter the rock.

If $P_b = i > R_a$, we will reserve the remaining paper $i - R_a$

Else $P_b = i < R_a$ we will take rock to counter rock avoiding get minus points, therefore, the remaining rock is $k - R_a (if\ k - R_a < 0\ let\ k - R_a\ be\ 0)$

Recording the points.

Then checking $S_b = j > P_a$

If $S_b = j > P_a$, there are remaining scissors $j - P_a$

If not , we will use the remaining paper from previous part. If remaining paper is 0, we only remain rock.

Recording the points and add the previous part.

For the last part using remaining to counter S_a.

Recording the points and adding.

Therefore, We get the maximum points and it is optimal solution.