**Discrete Math HW1 – report (21800321 JiheePark)**

* **Number Cross**
  + description

: In puzzle, each element has a number which is a range of 1 to 9. In input file, element of the first row and right-side column means the sum of white parts of the lines based on them as a value. The number of columns and rows in puzzle cannot exceed 50.

: the output value will have a value of 0 or 1.

\* constraints

1. each element has a number which is a range of 1 to 9, and the element is saved in list named by ‘input’.

The value of the part painted black is ignored when added. So, it is okay to assume that the black value has a zero value when added.

1. the sum of white parts of each column line is same with first input row elements in input file, and the first-row elements is saved in list named by ‘column’.
2. the sum of white parts of each column line is same with right-side input column elements in input file, and the right-side input elements is saved in list named by ‘row’.

The value of the part painted black will have zero value, and the value of the part painted white will have the input value. So, the sum of line will be the same the sum of the values in the white part and the value will be in ‘column’ list or ‘row’ list.

* + Test

the input data of number cross. =========> the output data from input data in number cross.

* + Discussion
    - detailed analysis of results

In parse function code.

If the value of element is 0, the color of that is black, and if the value of element is more than 1, the color of that is white. The black color will print out 1, and the white color will print out 0.

the setting coloring code in parse function.

* + - lessons learned

I think there is a difficult when I save the data to list from input file, because the input file has a row and column sum line. I do not have idea how can I divide them from entire input. So that was motivation for me to think hard about ++ operation and pointer.