Inspection (32 MB ML!)

Input file:	`standard input`
Output file:	`standard output`
Time limit:	5 seconds
Memory limit:	32 mebibytes

Note the unusual memory limit on this task!

After the road inspection considered the high frequency of the potholes on each kilometer of the road, the government of the province assigned some money to carry out partial road repairs.

Using the given money, it is possible to repair K_1 continuous road segments of length exactly L_1 kilometers, as well as K_2 continuous segments of length exactly L_2 kilometers. As a result of the roadworks, all the potholes on each of the repaired sections of the road are eliminated.

You were hired by the road building company to choose which sections of the road need to be repaired, to eliminate as many potholes as possible. Unluckily, due to budget restrictions, the PC that is provided to you for this task has **only 32 mebibytes** of free memory for your program.

The bureaucratic rules demand the repaired sections start (and therefore end) at an integer distance from the beginning of the road of kilometers.

The repaired sections cannot overlap with each other. All the money allocated for the repair of the road must be used.

Input

The first line of the input contains five integers: N is the length of the road ($1 \leq N \leq 10^4$), K_1, L_1 are the number of the sections of type 1 and the length of the section of type 1, respectively, K_2, L_2 are the number of the sections of type 2 and the length of the section of type 2, respectively ($1 \leq K_i, L_i \leq 100$, $L_1 \neq L_2$, $K_1L_1 + K_2L_2 \leq N$).

The second line contains N integers, i-th of those integers is the number of the potholes at the i-th kilometer of the road. Those integers are non-negative and do not exceed 10^9.

Output

In the first line of the output print one integer — the total number of the potholes to be eliminated after the roadworks.

In the following $K_1 + K_2$ lines print two integers: the coordinates of the beginning and the end of the section to be repaired. The sections shall be sorted in increasing order of the coordinates.

The coordinate of the beginning of the road is 0.

Example

standard input	standard output
20 2 3 3 2 2 0 2 0 1 2 1 2 1 2 2 2 1 1 2 2 2 1 2 2	22 4 6 6 8 9 12 14 17 18 20