



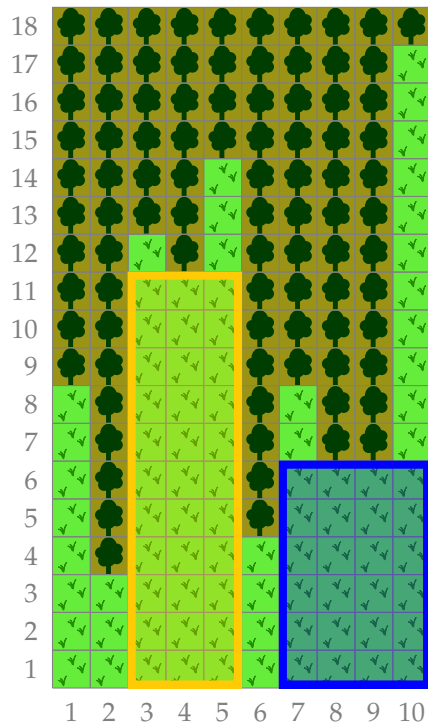
Meadow

As an award for his crucial part in the fight against the zombies Stofl was given a barn with a great meadow. Mouse Stofl would like to fence his estate, but because of the close-by forest this is not so easy. Please help him!

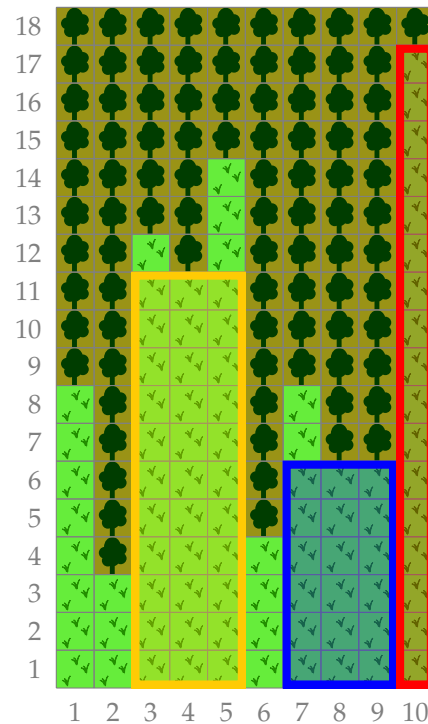
Stofl would like to have at most k non-intersecting rectangular fields. These have to be placed on a grid. In the south direction the fields go till the end of his estate, however in the north direction he can only build up to the forest. The forest does not stretch equally far to the south, so Stofl measured the distance d_i from the south border till the forest boundary for every horizontal position i (this is equal to the maximal height of a field at this position). Stofl wants to limit the size of the fields, so they should not exceed a certain maximal width t . Stofl would like to arrange his fields in a way, that the total area covered by all fields is maximal.

Hint: Because the fields are rectangular and are not allowed to intersect, a field beginning in position a and ending in position b (a and b inclusive) has an area of exact $(b - a + 1) \cdot \min_{a \leq i \leq b} d_i$ square meters.

In the following example the maximal width is 4 and the distances to the forest are 8, 3, 12, 11, 14, 4, 8, 6, 6 and 17.



(a) For $k = 2$ the yellow and blue field with the total area of 57 are the optimal solution.



(b) For $k = 3$ the yellow, blue and red field with a total area of 68 are the optimal solution.



Input

The first line contains the three integers n (width of the meadow), k (maximal number of fields) and t (maximal width of a single field). On the following n lines the measured distances d_i follow.

Output

Print out a single integer f , the total area which Stofl can fence within the given constraints.

Limits

There are 10 test groups, each is worth 10 points.

All test groups hold $0 \leq d_i \leq 1000$, $0 \leq k \leq n$ and $0 \leq t \leq n$.

- Groups 1 and 2 hold $1 \leq n \leq 10$.
- Groups 3 to 5 hold $1 \leq n \leq 100$.
- Groups 6 to 8 hold $1 \leq n \leq 300$.
- Groups 9 and 10 hold $1 \leq n \leq 500$.

Examples

Input	Output
10 2 4 8 3 12 11 14 4 8 6 6 17	57

Example from above with $k = 2$.



Input	Output
10 3 4 8 3 12 11 14 4 8 6 6 17	68

Example from above with $k = 3$.