Problem H
Rows of Stars

Time Limit: 1 second Memory Limit: 1GB

You're an amateur astronomer! Lately, you've been studying one particular sequence of n stars in the sky observed at n spots. Each star has a fixed brightness value, but their positions rotate counterclockwise by k spots each day and wrap around.

For example, if the original sequence of stars had brightness values $[1, 2, 3, 4, 5]$ on day 1 and $k = 2$, then on day 2 the sequence would appear as $[3, 4, 5, 1, 2]$. The image below illustrates how the stars would appear over the next $n = 5$ days.

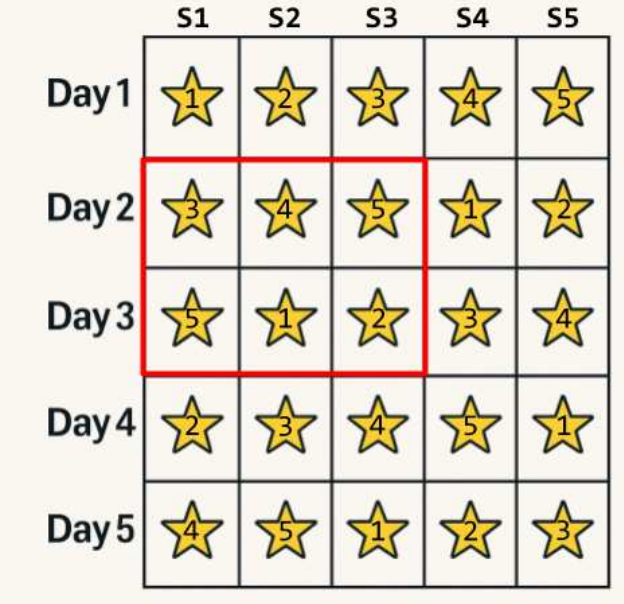


Figure H.1: Illustration of the first sample case. The stars at spots $[1, 3]$ over days $[2, 3]$ have a maximum sum of brightness of 20.

You believe something good will happen on the days when the stars are brightest. Thus, you are planning a d-day trip to observe the stars from s consecutive spots. You want to choose the spots and days so that the sum of brightness of the stars at those spots over those days is maximized. In other words, you want to find the largest possible sum of brightness of the stars at any s consecutive spots across any d consecutive days over the next n days. Note that the s spots you choose cannot wrap around.

Input

The first line of input contains four integers n, k, d, and s ($1 \leq n \leq 2 \cdot 10^5$, $0 \leq k \leq 10^9$, $1 \leq d, s \leq n$).

The next n lines each contain an integer between -10^7 and 10^7, inclusive. The integer on the ith line is the brightness value of the ith star on the first day.

Output

Output a single integer, the largest possible sum of brightness of the stars at any s consecutive spots across any d consecutive days over the next n days.

Sample Input 1

```
5 2 2 3
1
2
3
4
5
```

Sample Output 1

```
20
```

Sample Input 2

```
4 2 3 2
6
-2
8
1
```

Sample Output 2

```
22
```

Sample Input 3

```
5 2 4 4
-1
3
-5
-7
-9
```

Sample Output 3

```
-58
```

Sample Input 4

```
1 1 1 1
1
```

Sample Output 4

```
1
```