

Lavapaddling

1 Solution

Let's go backwards from the last interval between the islands to the first one.

Assume that we already decided that for all the next intervals to complete we can use p paddles. That would mean that on the current interval we can move on $p * (k - 1)$ metres using those paddles without breaking them. The distance that is left (call it *extra_dist*) has to be completed using more paddles, that we can break (since we won't need anymore further on). We need $\lceil \text{extra_dist} / k \rceil$ more paddles to complete the current interval. This value was to be added to p .

2 Implementation

- Read the input data

```
n, k, h = map(int, input().split())
dist_m = list(map(int, input().split()))
```

- Create the variable p to keep the current number of paddles

```
p = 0
```

- Go over the intervals backwards, for each of them count the *extra_dist*. Output the answer in the end.

```
for dist in dist_m[::-1]:
    extra_dist = max(dist * h - p * (k - 1), 0)
    p += (extra_dist + k - 1) // k

print(p)
```