Stad i ljus

1 Solution

Let's install the light strips one by one. We want to always take a new strip that would minimize the average cost, meaning the best option is to take the cheapest available one (which is the shortest light strip, since the cost per meter is constant). Thus the solution is to take the shortest strip while the average cost doesn't exceed the limit.

2 Implementation

- Read the input data

```
n, x, y = map(int, [input() for _ in range(3)])
lamps = list(map(int, input().split()))
```

- Sort the light strips by length

```
lamps.sort()
```

- Create *total* and *count* variables for the total cost and the number of light strips used

```
total, count = 0, 0
```

- Iterate over the items in order of increasing length, update the average cost and stop in case it exceeds the limit. Output the answer.

```
for i in range(n):
new_total = total + x * lamps[i]
if (new_total + count) // (count + 1) <= y:
    total += x * lamps[i]
    count += 1
else:
    break

print(count)
```