

2178. Maximum Split of Positive Even Integers

Description

You are given an integer `finalSum`. Split it into a sum of a **maximum** number of **unique** positive even integers.

- For example, given `finalSum = 12`, the following splits are **valid** (unique positive even integers summing up to `finalSum`): `(12)`, `(2 + 10)`, `(2 + 4 + 6)`, and `(4 + 8)`. Among them, `(2 + 4 + 6)` contains the maximum number of integers. Note that `finalSum` cannot be split into `(2 + 2 + 4 + 4)` as all the numbers should be unique.

Return *a list of integers that represent a valid split containing a **maximum** number of integers*. If no valid split exists for `finalSum`, return *an empty list*. You may return the integers in **any** order.

Example 1:

Input: `finalSum = 12`

Output: `[2,4,6]`

Explanation: The following are valid splits: `(12)`, `(2 + 10)`, `(2 + 4 + 6)`, and `(4 + 8)`.

`(2 + 4 + 6)` has the maximum number of integers, which is 3. Thus, we return `[2,4,6]`.

Note that `[2,6,4]`, `[6,2,4]`, etc. are also accepted.

Example 2:

Input: `finalSum = 7`

Output: `[]`

Explanation: There are no valid splits for the given `finalSum`.

Thus, we return an empty array.

Example 3:

Input: `finalSum = 28`

Output: `[6,8,2,12]`

Explanation: The following are valid splits: `(2 + 26)`, `(6 + 8 + 2 + 12)`, and `(4 + 24)`.

`(6 + 8 + 2 + 12)` has the maximum number of integers, which is 4. Thus, we return `[6,8,2,12]`.

Note that `[10,2,4,12]`, `[6,2,4,16]`, etc. are also accepted.

Constraints:

- $1 \leq \text{finalSum} \leq 10^{10}$

