Optimizing Chocolate Sharing with Binary Search

- **Problem:** Sharing a chocolate bar fairly among 11 people.

- **Objective:** Maximize the sweetness of the piece with minimal sweetness.

sweetness =

sum (10 7 9 6 8 5 11 2 13 4 3 1 12)

=91

friends =

count ( )

=11

Maximizing Chocolate Sweetness

Binary Search Approach:

Efficient way to find the maximum available total sweetness.

Steps:

- Initialize boundaries.
- Calculate mid-point.
- Check if it's possible to cut the bar into 10 pieces.
- Update boundaries accordingly.
- Repeat until convergence.

maximum availible total sweetness

| 10 | 7 | 9 | 6 | 8 | 5 | 11 | 2 | 13 | 4 | 3 | 1 | 12 |

>= 4