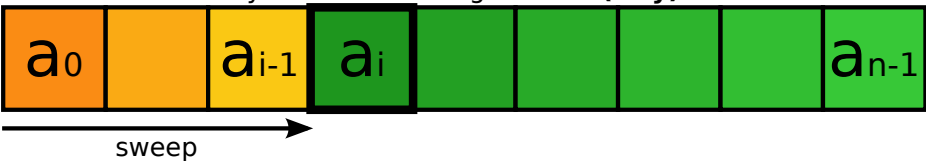


avatar array sorted according to the x (**or y**) coordinate



$c(\text{left})$  = capacity of the node's left child

$c(\text{right})$  = capacity of the node's right child

split coordinate :=  $\text{avatar}[i].\text{getX}()$  (**or getY**), where  $i$  is such that:

$$\frac{\sum_{j=0}^{i-1} \text{load}(a_j)}{\sum_{j=0}^{n-1} \text{load}(a_j)} \approx \frac{c(\text{left})}{c(\text{left}) + c(\text{right})}$$