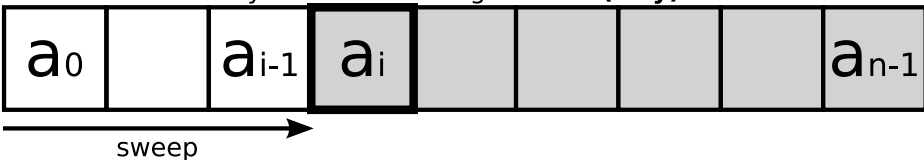avatar array sorted according to the x **(or y)** coordinate

c(left) = capacity of the node's left child
c(right) = capacity of the node's right child
split coordinate := avatar[i].getX() **(or getY)**, where i is such that:

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