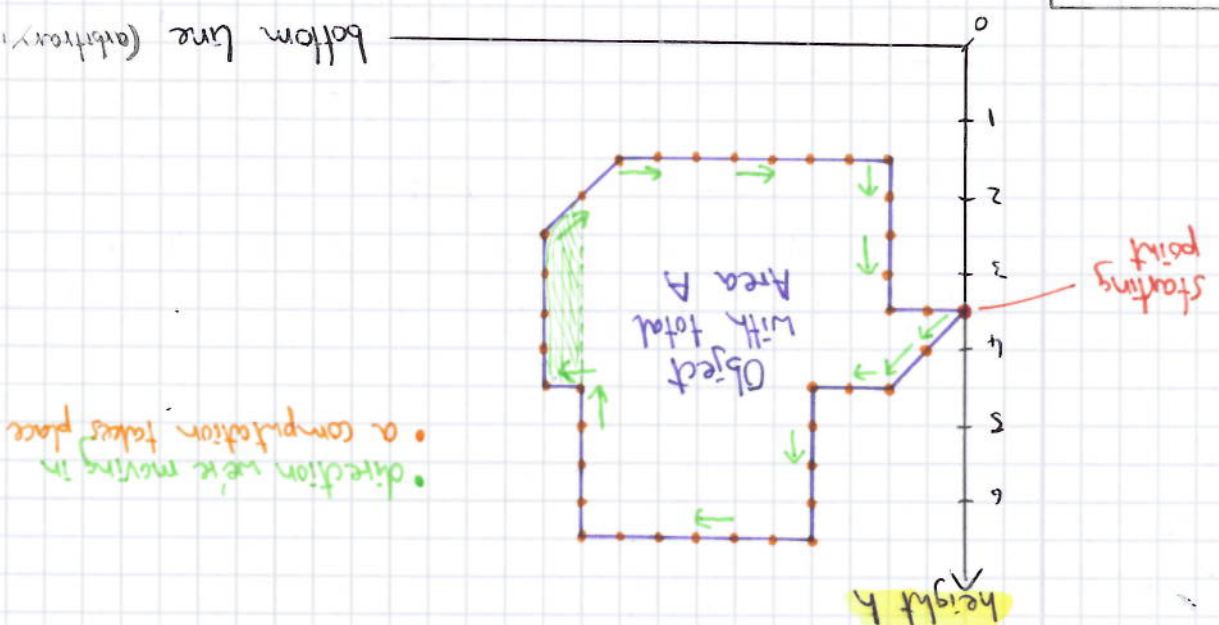


Computing area with chain codes

- First and foremost: h stands for height, it is the specific height of the current pixel measured from some bottom line below the object.
- h is not a constant.
- Now here's how you do it:



- Every computation causes a computation and something is added to our total area, A .

Again we assume pixel length = 1

- Which computation? This depends on two things

- ① The height of the pixel where we came from, i.e. h
 - ② The direction of the little green arrow that brought us to.
- We can then look up what to add to A in this table:

| Direction of little green arrow | Amount to add to A |
|---------------------------------|----------------------|
| ↓ | 0 |
| ↙ | $h + \frac{1}{2}$ |
| ← | h |
| ↘ | $h - \frac{1}{2}$ |
| ↗ | 0 |
| ↖ | $-h + \frac{1}{2}$ |
| → | $-h$ |
| ↘ | $-h - \frac{1}{2}$ |

The unit of A is pixel area or pixel length²

- So for example, to get the area of this piece of the object (see above), we add h at x because we go



and then we subtract $-h$ at o because we go

then we add $\frac{1}{2}$. This gives us $4.5 - 2.5 + \frac{1}{2} = 2.5$ which is correct.