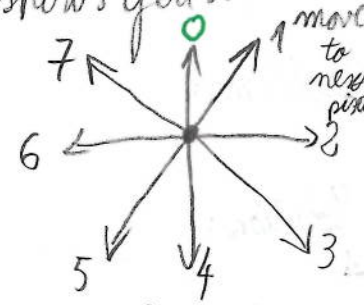
Blob Description

Descriptive information can be derived from **blobs**:

- Moments of area (How to characterise a blob?)
- Chain codes
- Colour distribution

Chain codes

- used to trace the object outline; follows pixels on boundary
- can be applied inside or outside the image
- it represents the **direction** of the jump to the next pixel (0 shows you where to move to next pixel)
- **position independent** but **orientation dependent**



0 - forward
2 - right
4 - back
6 - left
1,3,5,7 - in between

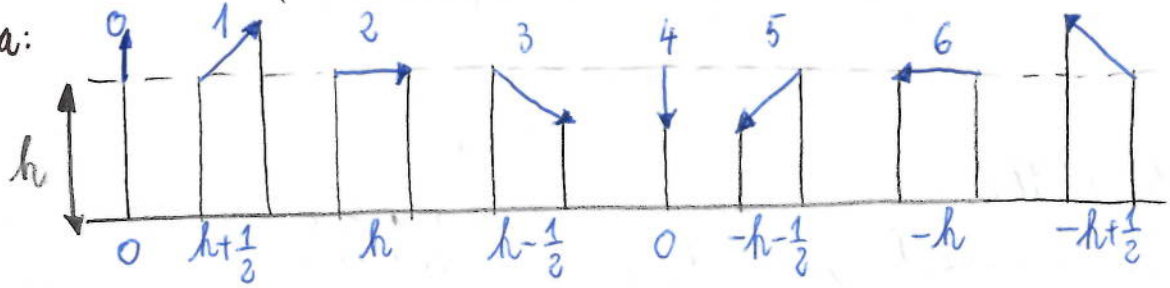
Perimeter: - even codes' length = 1

- odd codes' length = $\sqrt{2}$ (Pitagora's theorem )

→ Perimeter length = #even + $\sqrt{2}$ #odd (#YOLO)

↳ for all boundaries we make this sum

Area:



→ Area = some of all codes depending on the direction

- h is measured from an arbitrary datum

Moments of area

- method for characterising a blob
- $M_{\alpha\beta} = \sum_{image} x^{\alpha} y^{\beta} f(x,y)$ = sum over the image where { - x, y = coordinates of the image; - f(x,y) - blob map - binary { 0 - outside the blob; 1 - inside the blob }
- when $\alpha = \beta = 0$ => the moment is the area of the blob (M_{00})
- $\frac{M_{10}}{M_{00}}$ = average of x values of the blob i centre of gravity of the blob; centroid