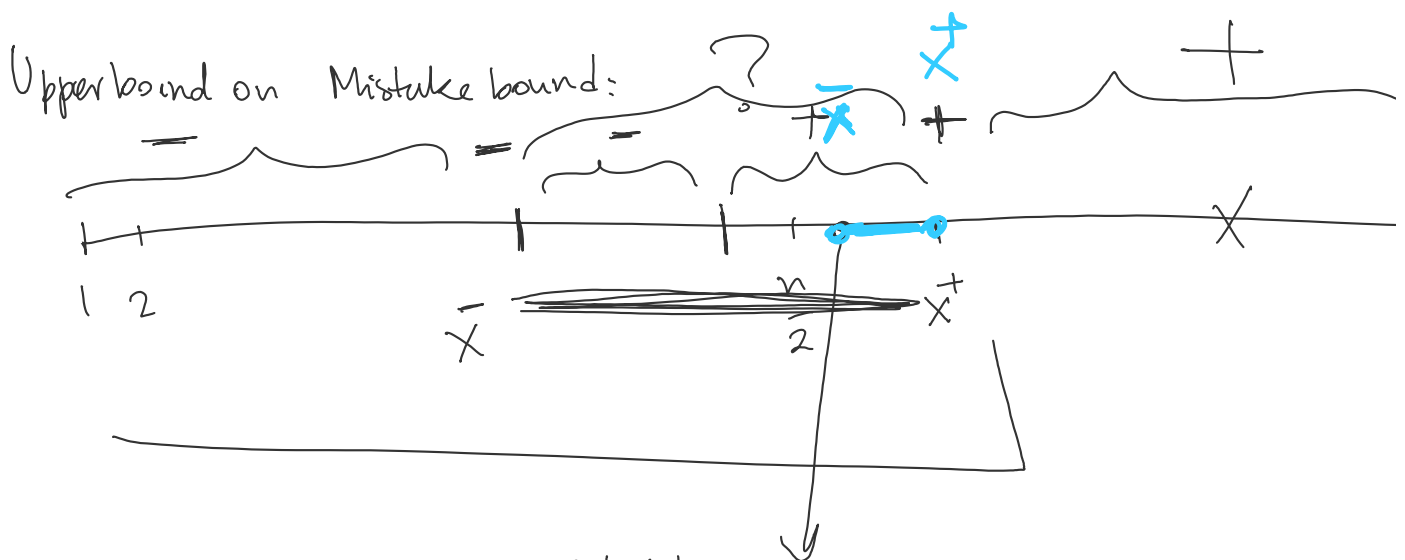
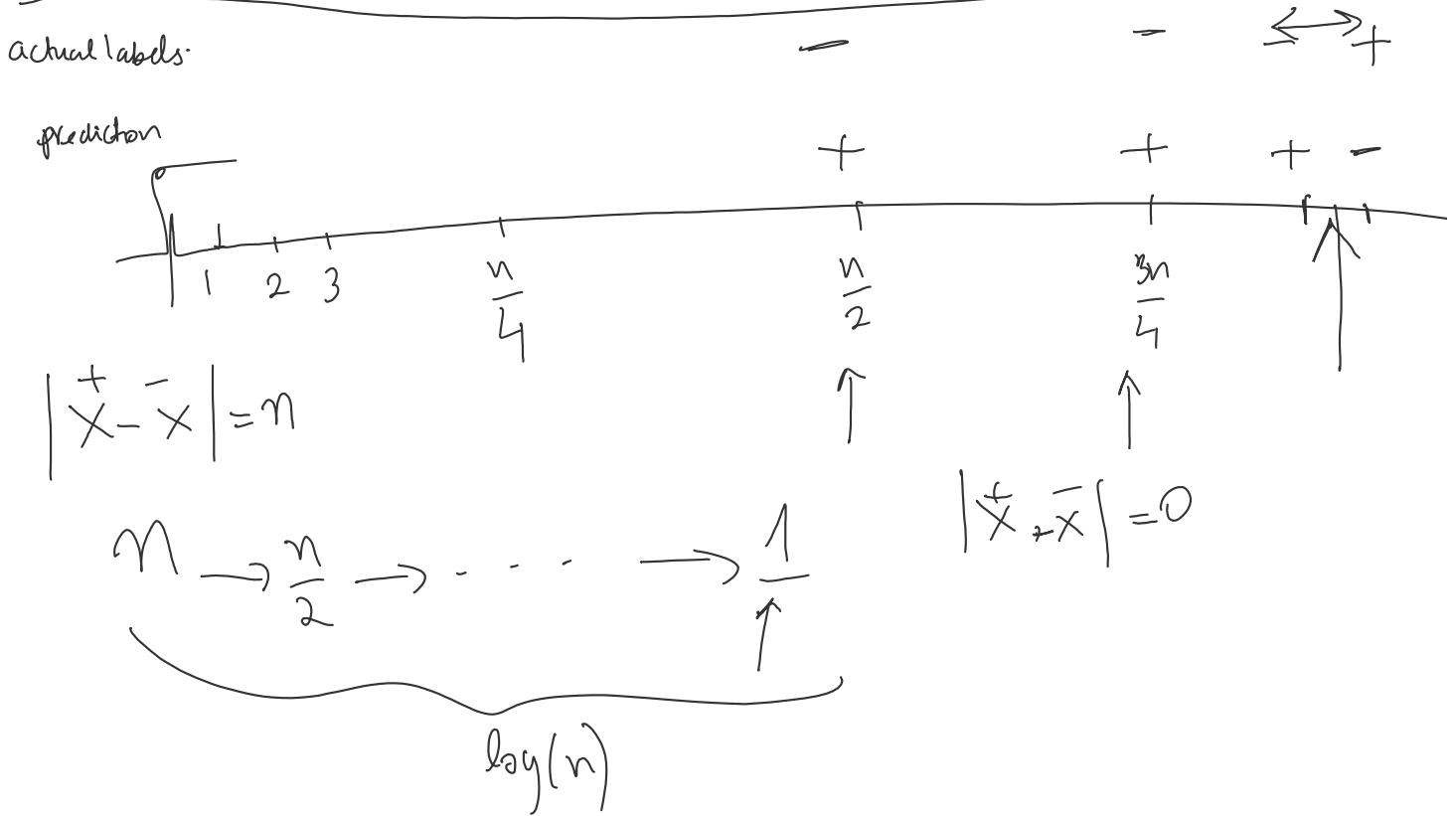


Remarks about Mistake bound:

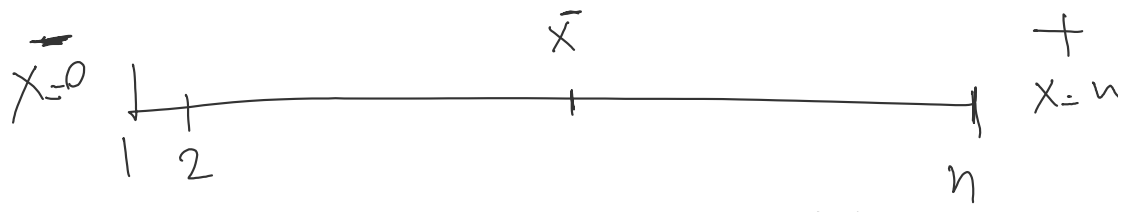
- low mistake bound doesn't mean fast "convergence"  $\rightarrow$  Stop
- Arbitrarily slow convergence. (Mistakes late in the sequence).
- It's ok not to converge as long as  $M$ : mistakes is small.



$h_a$  are still consistent. actual label = mistake: halved the  
that are still consi  
observations.

$$|x_t^+ - \bar{x}| \leq \frac{1}{2} |x_{t-1}^+ - \bar{x}| \implies \log(n)$$

Start with no observation  $\bar{x} = 0$   $x_{t-1}^+$



$h_a$  that is consistent  $\{(\bar{x}, 0), (x_{t-1}^+, 1)\} = \underline{\underline{\mathcal{H}}}$

$$\frac{\mathbb{E}[m]}{T} \leq \frac{opt}{T} + \frac{o(T)}{T} \rightarrow 0$$