Recitation.
   (More) Boosting Facts.

① $\sum v_i = 1$.

② $\sum\limits_{correct} w_i = \sum\limits_{wrong} w_i = 1/2$

   while keeping ratio (except 1st round)

③ after (1st round) $0 < w_i \leq \frac{1}{v}$ ($w \neq 0$).

④ h_i chosen in prev. round.
   $\varepsilon(h_i) = 1/2$.

⑤ never the pick some h_i in consecutive rounds.

⑥ cannot make perfect H w/ just 2 weak classifiers. __inperfect__.
   $H = \alpha_1 h_1 + \alpha_2 h_2$ $(\alpha_1 > \alpha_2)$
   $+ \; [\pm] \rightarrow +$
   $- \; [\pm] \rightarrow -$

⑦ if 3+ classifiers have disjoint errors.
   Can make perfect H. by setting αs to satisfy
   __TRIANGULAR INEQUALITY__
   $H = \alpha_1 h_1 + \alpha_2 h_2 + \alpha_3 h_3$.

point			
$-$	$+$	$+$	$\rightarrow \alpha_2 + \alpha_3 > \alpha_1$.
$+$	$-$	$+$	$\rightarrow \alpha_1 + \alpha_3 > \alpha_2$
$+$	$+$	$-$	$\rightarrow \alpha_1 + \alpha_2 > \alpha_3$.

⑧ In general, to make perfect H, for each pt.
   want correct classification to outbid wrong classif.

[Ex] 2016. Q4. Pl.B. ⚠   Pt.1. $\alpha_H > \alpha_B + \alpha_F$.
                          Pt.6. $\alpha_B + \alpha_F > \alpha_H$.] ⊗.

h_i	Miss.
F	1. 4. 6.
B	1. 2.16

∴ So it's not possible to make the perfect H.

→ No guarantee Adaboost until pick exactly these h_i α.