If G is perfect

then its complement

is also perfect

A

$$|H| \leq \alpha(H)\,\omega(H)$$

$$|\bar{H}| \leq \alpha(\bar{H})\,\omega(\bar{H})$$

✓

$$|H| \leq \underbrace{\alpha(H)} \cdot \omega(H)$$

$$\chi(H) = \omega(H)$$

G "U" of G

$$\chi(G - U) = \underbrace{\omega(G - U)}_{} = \omega$$

$\omega(H)$ become

suppose ~~ω~~ —

$\omega - 1$ or less $\longrightarrow$

G with ω colors

$G - U$ ~~was~~ can be colored using $\omega - 1$ colors

$$|S| = \alpha$$

$$S = \{\underline{\underline{u_1}}, u_2, \ldots u_\alpha\}$$

u_1 $\qquad \omega(G - u_1) = \omega(G)$

$A_1, A_2, \ldots\ldots A_\omega$

$u_2 \in S$

$$\underline{\chi(G-u_2)} = \omega(G-u_2) = \omega$$

$A_{\omega+1}, \ldots, A_{2\omega}$

$$\chi(G - u_3) = \omega(G - u_3) = \omega$$

$$\frac{A_{2\omega+1},\ A_{2\omega+2},\ \ldots\ A_{3\omega}}{A_{(i-1)\omega+1}\ \ldots\ A_{i\omega}}$$

S

$\alpha\omega + 1$

$$\begin{array}{l} s_{11}, s_{12}, s_{13}, \dots s_{1\omega} \leftarrow a_1 \\ s_{21}, s_{22}, s_{23}, \dots s_{2\omega} \leftarrow a_2 \\ s_{\alpha 1}, s_{\alpha 2}, \dots s_{\alpha\omega} \leftarrow a_\alpha \end{array}$$

$S \longleftrightarrow |K_S| = \omega \xleftarrow{\text{in}} G - S$

$S_{11} \longleftrightarrow K_{S_{11}} \longleftarrow G - S_{11}$

S_{12}

$\vdots$

$S_{1\omega}$

$\vdots$

$S_{\alpha 1}$

$S_{\alpha 2}$

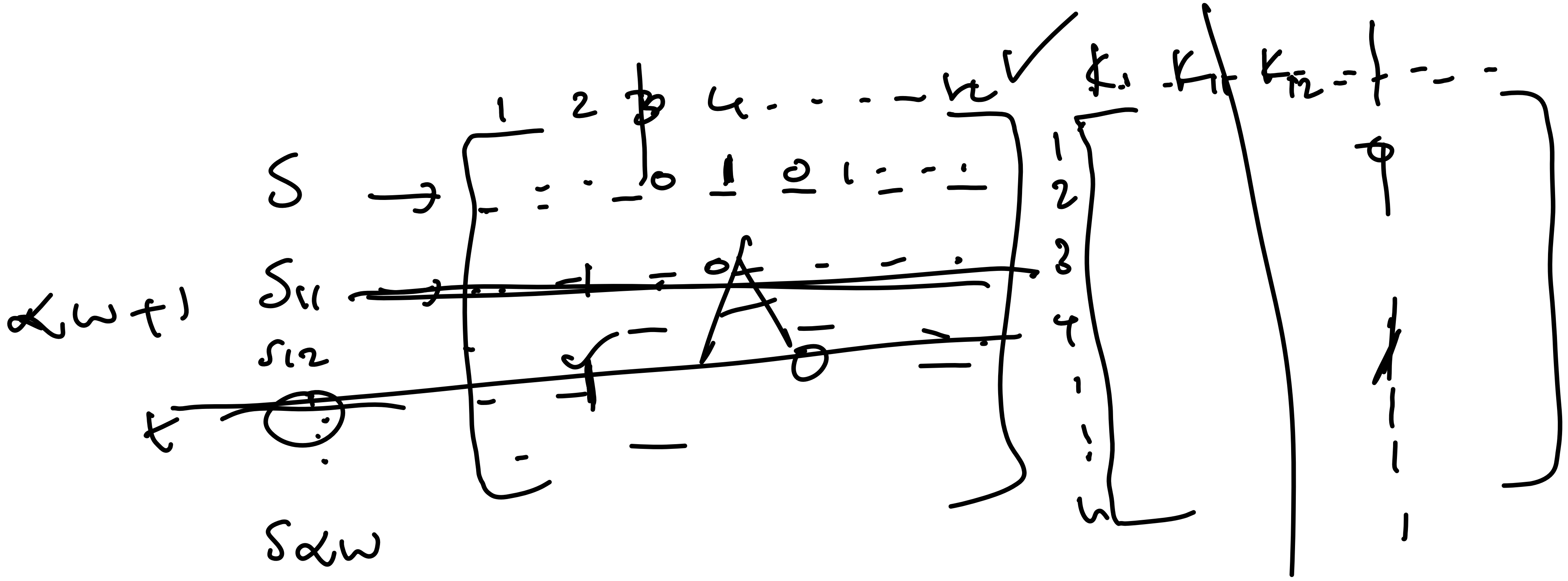
$S_{\alpha\omega} \qquad K_{S_{\alpha\omega}} \longleftarrow G - S_{\alpha\omega}$

$$|K| = \omega$$

$$K \cap S = \emptyset$$ K is in $G - S$

$$K \cap S \neq \emptyset \longleftarrow |K \cap S| = 1$$

u_j



$$(\alpha\omega+1)\times n \qquad n\times(\alpha\omega+1)$$

$$(\alpha\omega+1)\times(\omega\alpha+1)$$

$$\text{rank} = (\alpha\omega + 1)$$

$$\overset{n}{\boxed{A}}\,B =$$

$\alpha\omega + 1$

$$n < \alpha\omega + 1$$

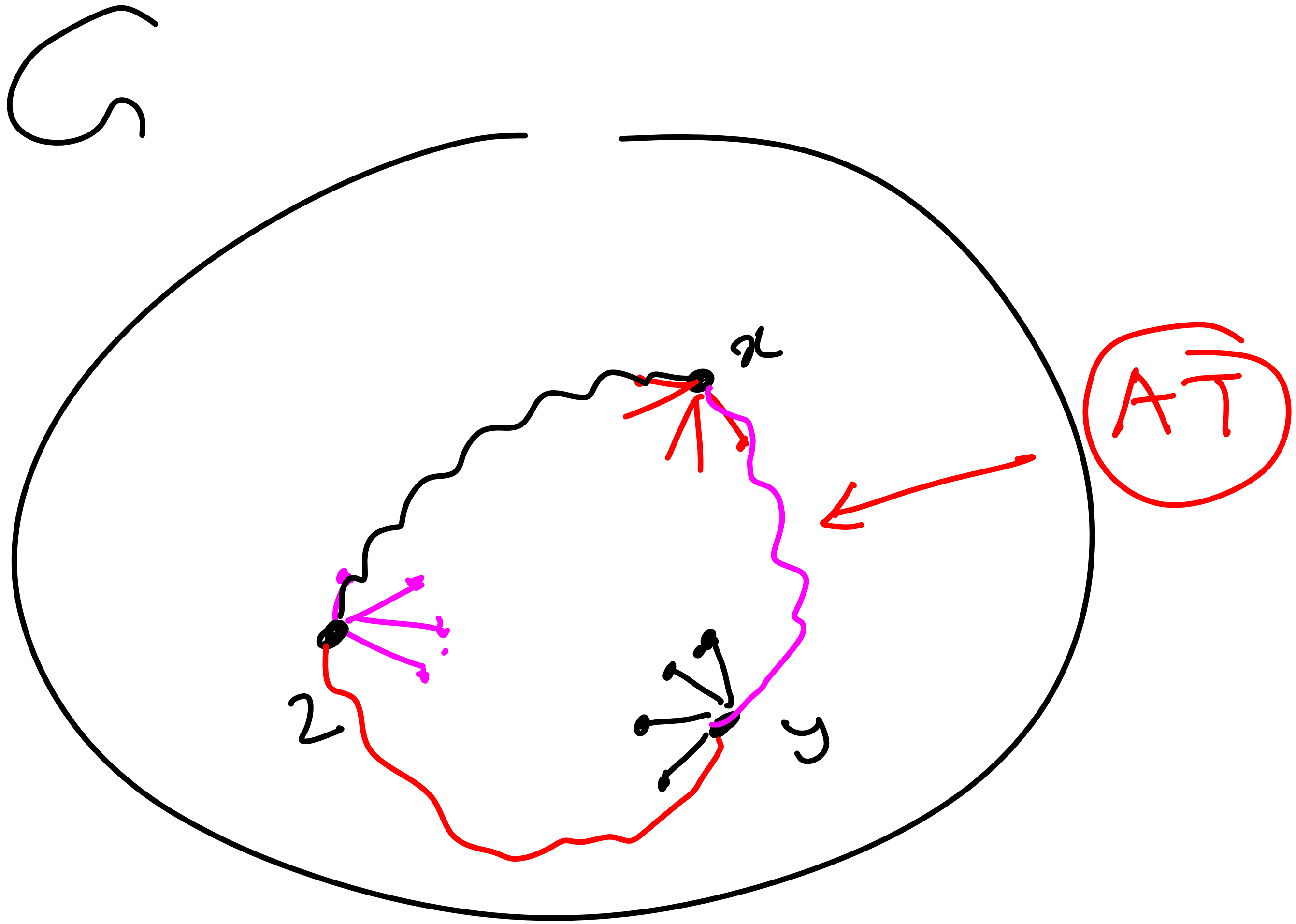
$$|H| \le \alpha\omega$$

$$n \le \alpha\omega$$

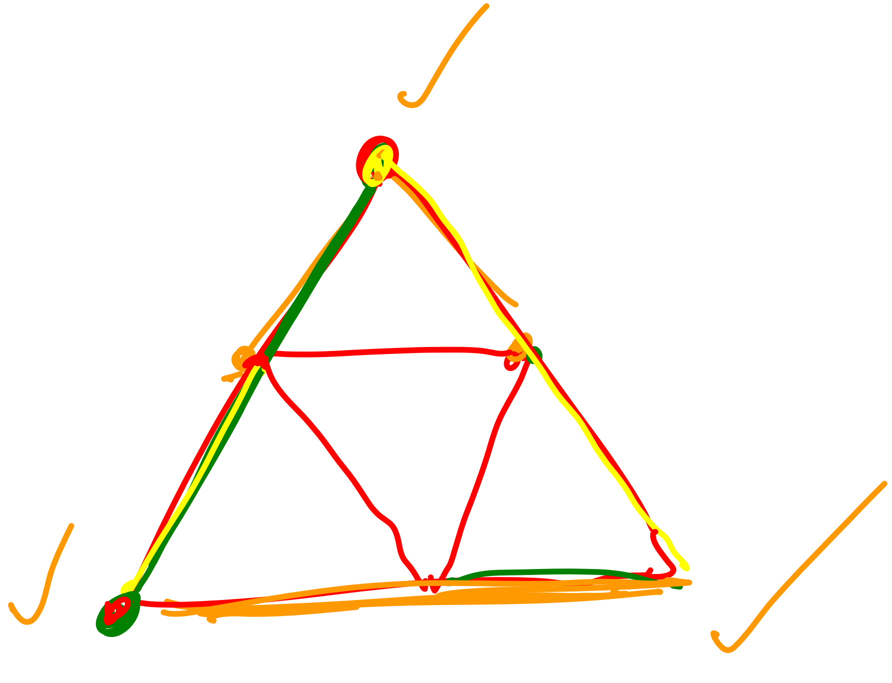
A.T.- free graph

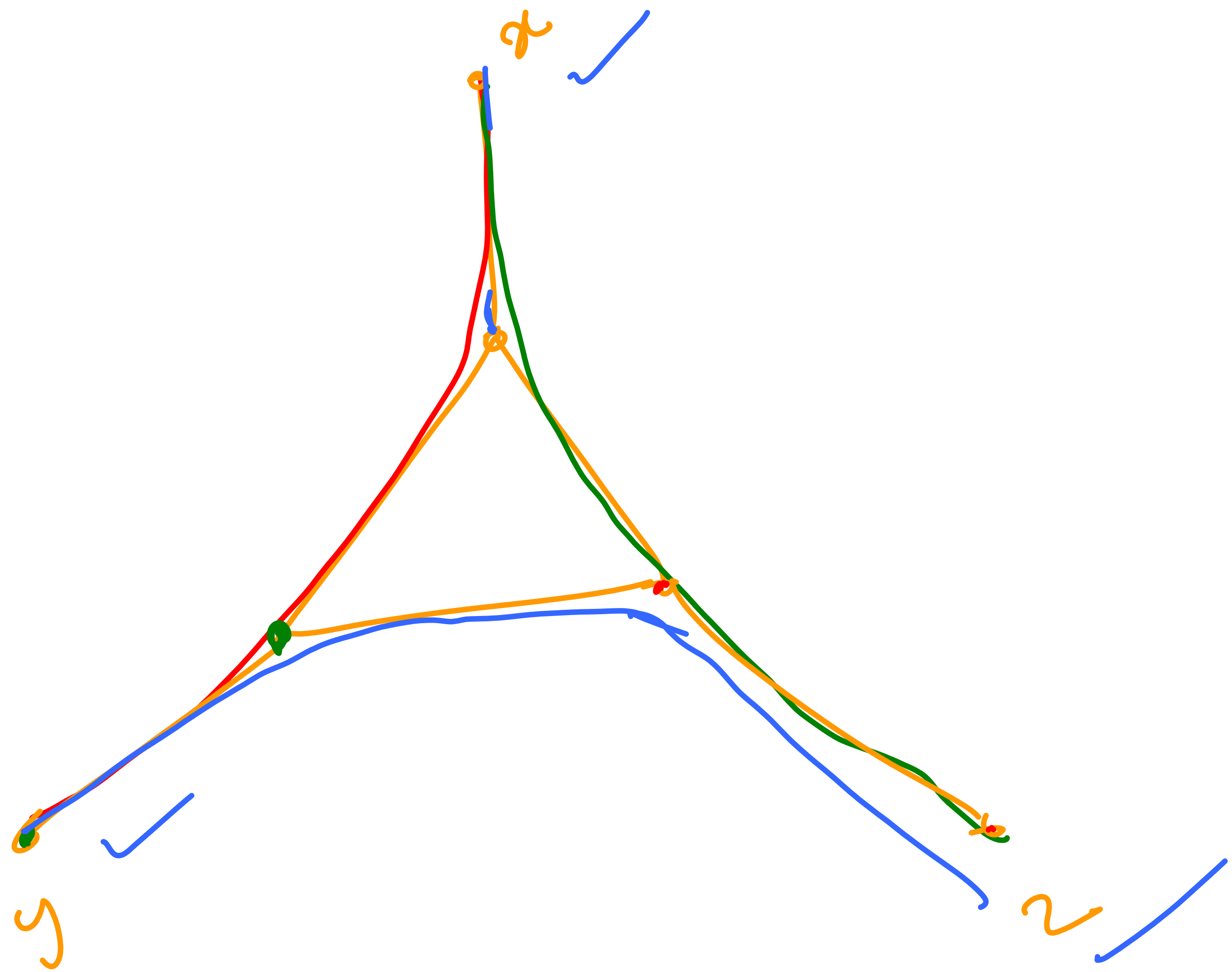
AT $\rightarrow$ Asteroidal

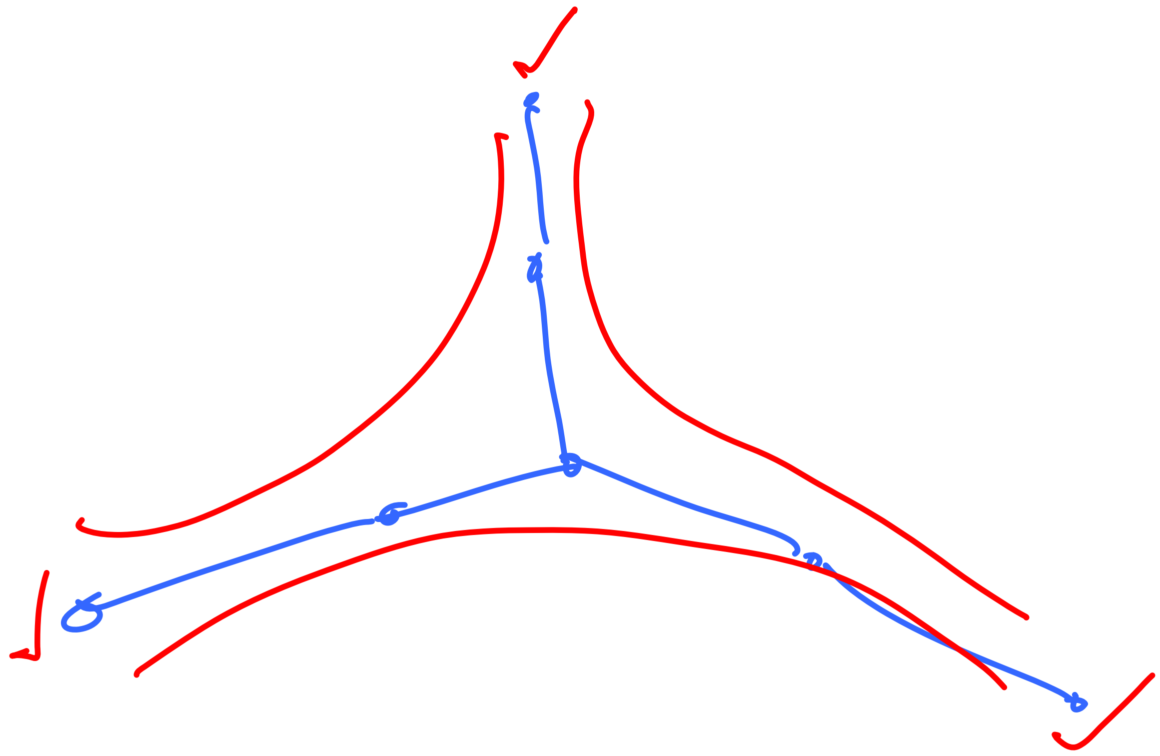
Triple



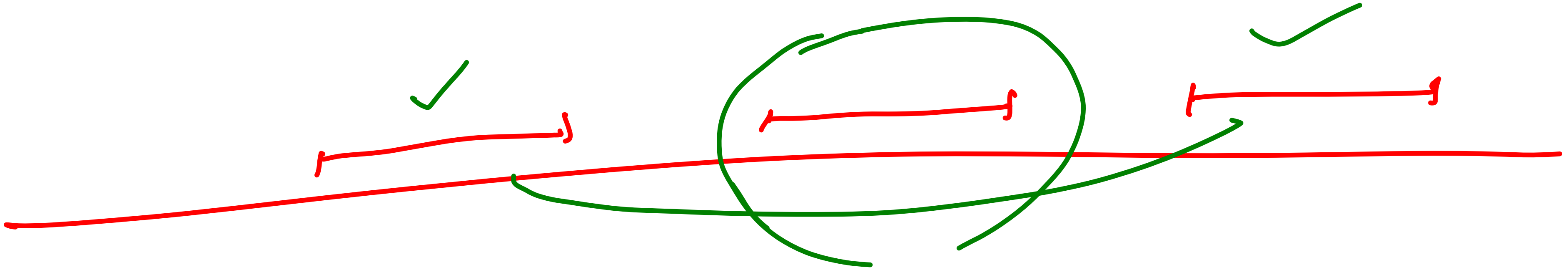
G
x
z
y
AT




x
y
z



Interval graphs are AT-free

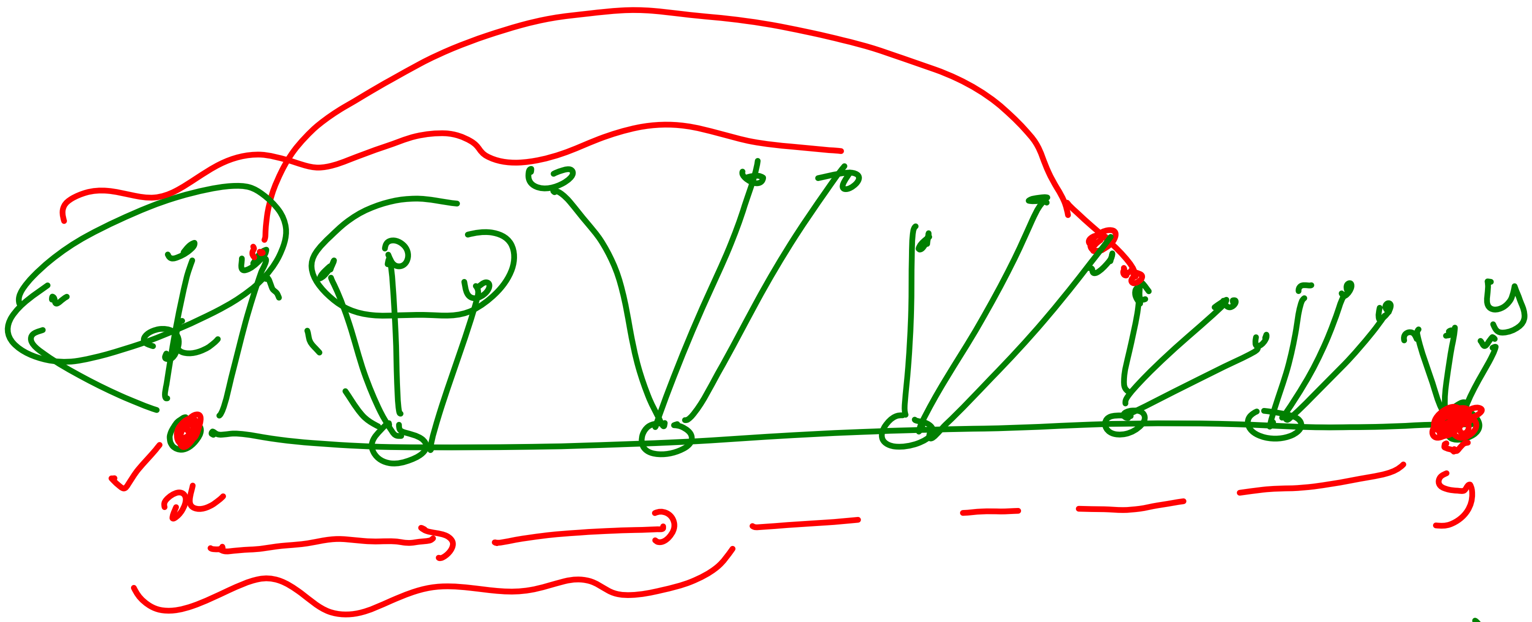


- Interval graph
- Permutation graphs
- Trapezoidal graph

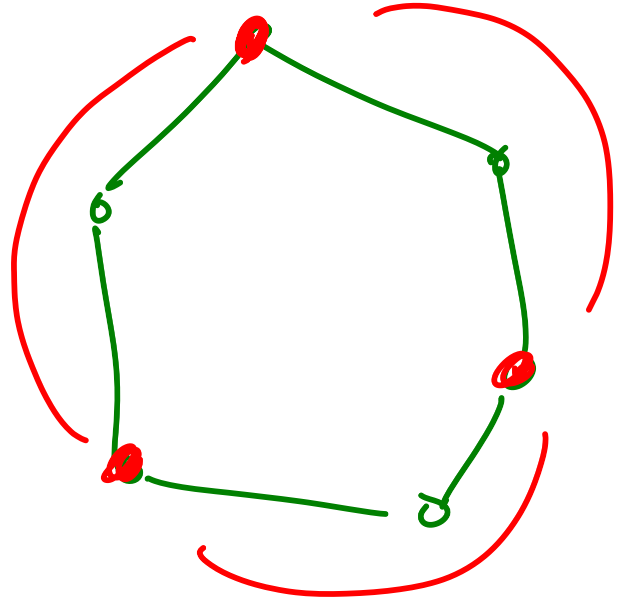
~~Co-Comparabl~~

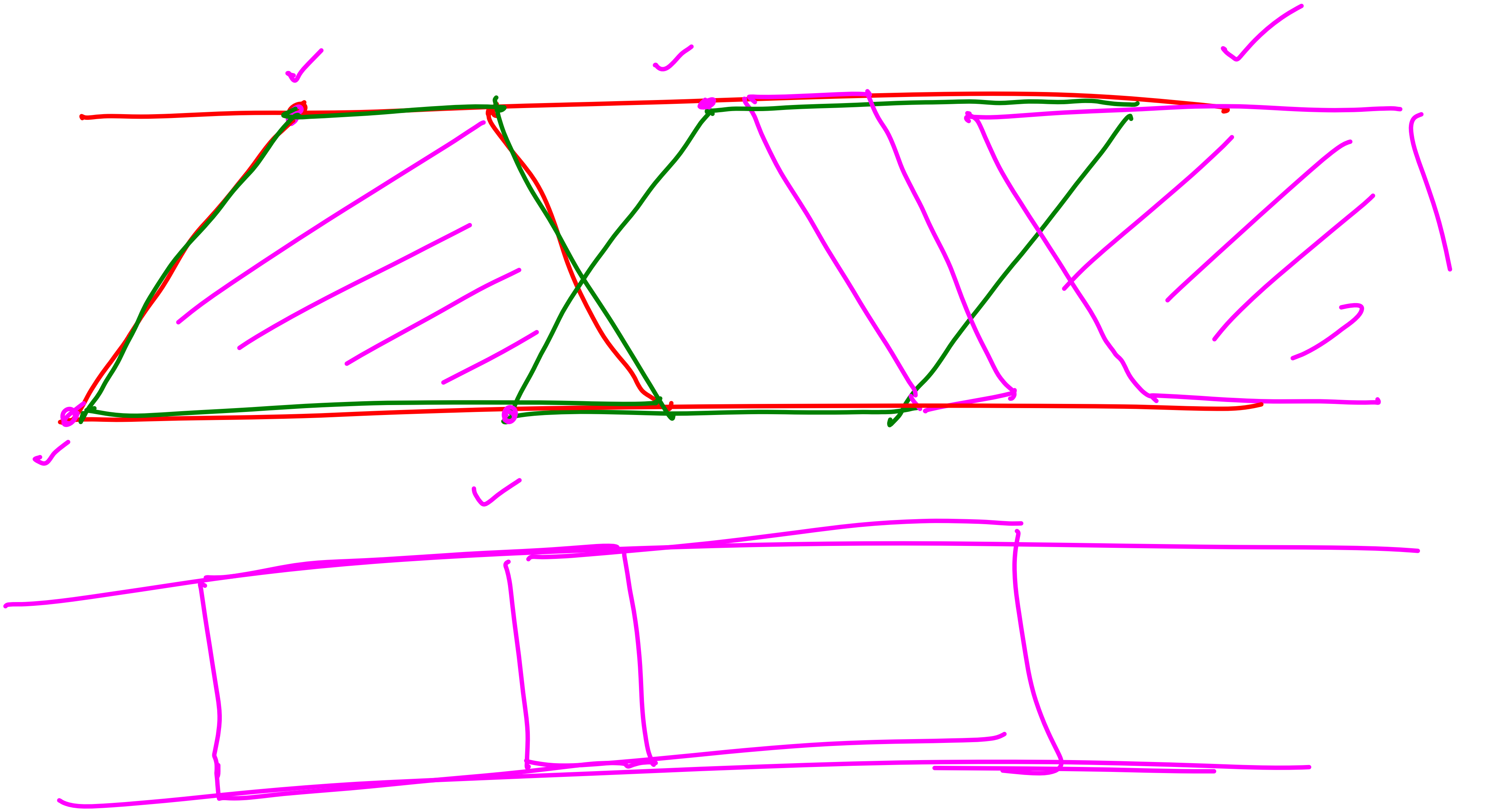
$\subseteq$ co-comparability

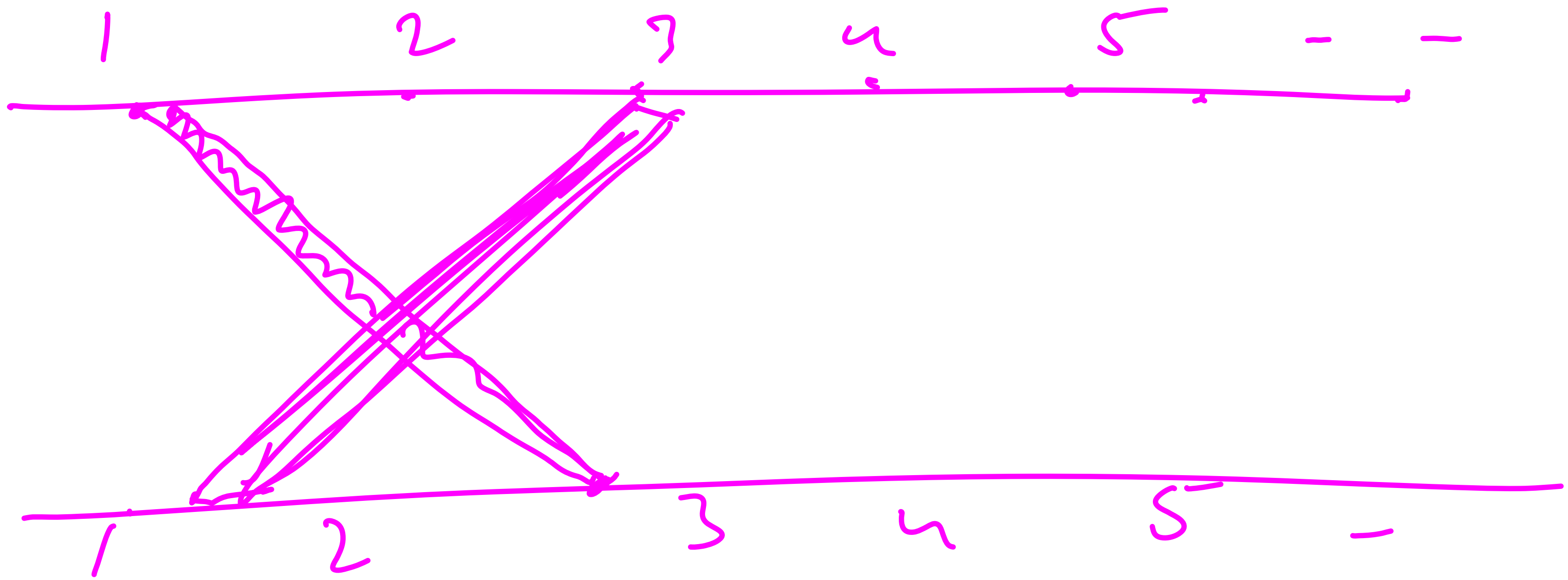
$\subseteq$ AT-free



No AT-free graph contains an induced 6-cycle






1 2 3 4 5 — —
1 2 3 4 5 — -

circular arc graphs