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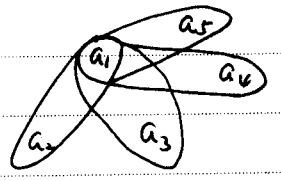
⇒ 

⇒ We have only to count the cases of $E_{(i)}$ $G_{(i)}$ and $F_{(j)(l)}$. ⇒ ${}_6C_1 \times {}_5C_1 = 6 \cdot 5 = 30$.

{ E_i, G_i, F_{jl}, F_{jm}, F_{jn}, F_{jk} }.

{ G_1, G_2, G_3, F_{45}, F_{46}, F_{56} }

⇒ ${}_6C_2 = 20$:= # { G_i, G_j, G_k, F_{lm}, F_{mn}, F_{ln} }

Now we will show why other cases are excluded.

① 2 E_i's.

{ E_1, E_2, ··· } No chance for G, since G_i meets E_j if $i \neq j$.

⇒ { E_1, E_2, F, F, F, F }.

As we saw above, { F_{jn_1}, F_{jn_2}, F_{jn_3}, F_{jn_4} } is possible.

⇒ $j=3$, { n_1, n_2, n_3, n_4 } = { 4, 5, 6 } impossible.

② 4 E_i's.

Again no chance for G.

{ E_1, E_2, E_3, E_4, F_{56}, ? } is not possible.

③ 2 G_i's

By the same reason, no chance for E.

{ G_1, G_2, F, ··· } is not possible as in the case ①.