Note: Ta(ch)ing point: "V" is the rank of the matrix.

\[ m = \text{rank}(F_{\text{v}}(K)) \]

\[ \begin{align*}
\text{For } \alpha \in \text{rank}(K) & : \\
\text{For } \beta \in \text{rank}(K) & : \\
\text{For } \gamma \in \text{rank}(K) & :
\end{align*} \]

Healer\( (\text{rank}(K) - \text{rank}(\text{v})) \) = 0

Property with respect to inner-vectors

\[ \begin{align*}
\text{For } \alpha & : \\
\text{For } \beta & : \\
\text{For } \gamma & :
\end{align*} \]

Applying again \( \text{rank}(K) - \text{rank}(\text{v}) = 0 \) and \( \text{v} \text{ rank}(K) - \text{rank}(\text{v}) \text{ rank}(K) = 0 \)

\[ \begin{align*}
\text{For } \alpha & : \\
\text{For } \beta & : \\
\text{For } \gamma & :
\end{align*} \]

Staring from the last identity:

\[ \begin{align*}
\text{Invisible, if you were misguided} & : \\
\text{If the is the one which is rather sketchy, and} & :
\end{align*} \]

You can find alternative, more rigorous derivations:

Sheet 2, Problem
Thus, $[F_iFa] = 0 \Rightarrow F_i$ is an idempotent.