Template matching for pattern-based clique finding

- Pu: the set of nodes in pattern P
- $\bullet \qquad F_u\hbox{: the set of all nodes in all patterns}$
- Base = $\{i,k\}$
- $T=\{C_{i,k}U\{i,k\}\}\$, the nodes in the triangles of a projector matrix entry & base
- Missing $P = P_u \setminus T$: nodes in one pattern that are not in the nodes of triangles from a projector matrix entry
- Missing* = MissingP \cap q*: the nodes in a pattern core that are not in the nodes of triangles of a projector matrix entry
- Jold* = $q^* \cap C_{i,k}$: the nodes in a pattern core that are in the projector matrix entry
- Clique_check(P, T): returns true if P reflects T as if it were a clique
- Tri_covd(P, C_{i,k}, i, k): returns true if P reflects every triangle with i,k as base and an element of C_{i,k} as 3d node (called triangles_covered in code)

code)		T	T
	Process the Base	Process the Projectors	Adjust the Patterns
	Process only if i, k not in	Process only if $C_{i,k} \setminus F_u \neq \{\}$	(optional?) Process only if $F_u \setminus T \neq \{\}$
	same core for some pattern.		First, loop through all patterns and if $P_u \setminus T = \{\}$
	First, Loop through all the	Loop through all the patterns and apply	or clique_check(P, T) or tri_covd(P, C _{i,k} , i, k),
	patterns and if	the actions in the templates.	then stop (do not process column).
	clique check(P, T) or	•	1 \ 1
	tri $covd(P, C_{i,k}, i, k)$, then		Loop through all the patterns and apply the
	stop (do not process column).		actions in the templates.
	Loop through all the patterns		r
	and if we find a trigger for an		
	Action, perform it and stop.		
i,k ∉ P ₁₁	Action 1:	No action	No action
1,K ⊈ 1 u	New pattern, $q^* = T$, $q#=\{\}$		
i,k ∈ q*	No action	Action 3:	Action 4:
		$Pnew = C_{i,k} \setminus P_{u}$	if Missing* = 1
		if Pnew≠ {}	remove Missing*
		if Pnew = 1	else
		New pattern, $q^* = [i,k,Pnew], q#=\{\}$	move Missing* to new q#
		else	, , , , , , , , , , , , , , , , , , ,
		$M = C_{i,k} \cap q^*$	
		$ \begin{array}{c} \text{if } \mathbf{M} = 1 \\ \text{if } \mathbf{M} = 1 \end{array} $	
		$new q# = Pnew \cup M$	
		$q^* = q^*/M$	
		else	
		new q# = Pnew	
		else	
		No action	
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i,k ∈ Q#.	No action	Action 3	No action
one of i,k $\notin P_u$,	Action 2	Action 3 No action	Action 5
	Action 2 if $ C_{i,k} = 1$ or $(Jold* \neq \{\})$ and		
one of i,k $\notin P_u$,	Action 2 if $ C_{i,k} = 1$ or $(Jold* \neq \{\})$ and $ q* <= 3$:		Action 5
one of i,k $\notin P_u$,	Action 2 if $ C_{i,k} = 1$ or $(Jold* \neq \{\})$ and $ q* <= 3$: Action 1		Action 5 if MissingP ≠ {}
one of i,k $\notin P_u$,	Action 2 if $ C_{i,k} = 1$ or $(Jold* \neq \{\})$ and $ q* \le 3$: Action 1 else		Action 5 if MissingP \neq {} M = (one of i,k \notin P _u and MissingP)
one of i,k $\notin P_u$,	Action 2 if $ C_{i,k} = 1$ or $(Jold* \neq \{\})$ and $ q* <= 3$: Action 1		Action 5 if MissingP ≠ {} M = (one of i,k ∉ P _u and MissingP) if there is exactly one q# that
one of i,k $\notin P_u$,	Action 2 if $ C_{i,k} = 1$ or $(Jold* \neq \{\})$ and $ q* \le 3$: Action 1 else		Action 5 if MissingP ≠ {} M = (one of i,k ∉ P _u and MissingP) if there is exactly one q# that contains nodes in MissingP, move M
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