

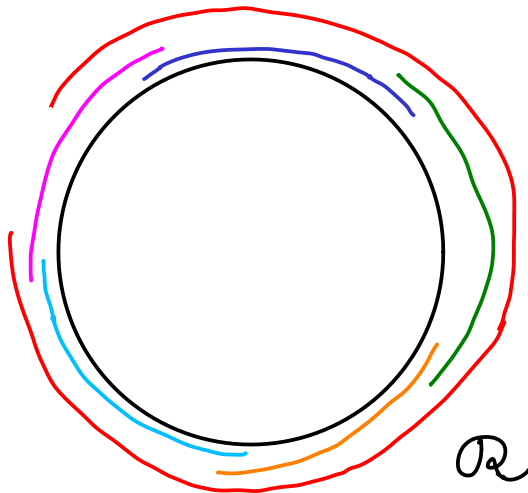
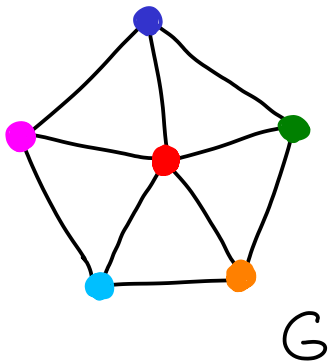
An Open Problem
for Circular-arc Graphs

Pavel Klavík

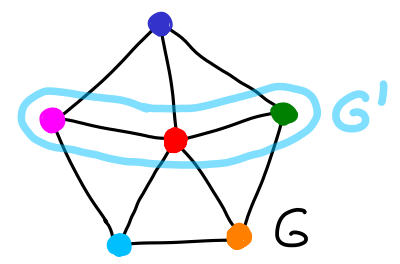
GROW 2013 – Santorini

CIRCULAR-ARC GRAPHS

- intersection graphs of arcs of
 Δ circle



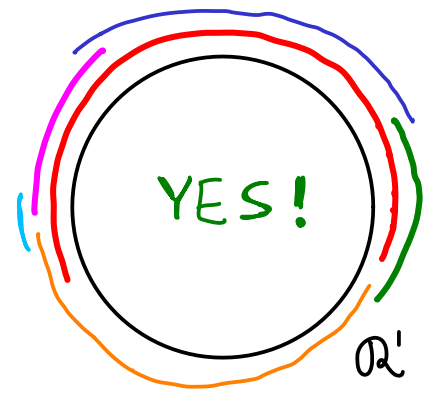
RECOG: $G \stackrel{?}{\rightarrow} \mathcal{R}$,
i.e., $G \in \mathcal{R}^2$ CIRCULAR-ARC



REPEXT: $G + \mathcal{R}' \stackrel{?}{\rightarrow} \mathcal{R}$

\mathcal{R}' is a partial representation.

Prescribes some predrawn arcs.



The complexity of PARTIAL REPRESENTATION EXTENSION of CIRCULAR-ARC graphs?

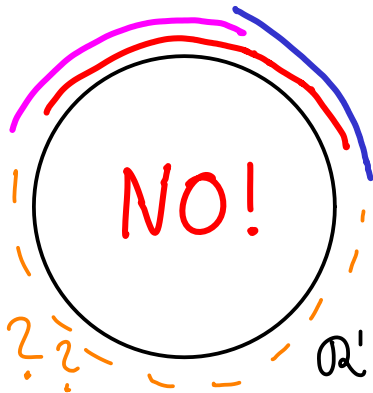
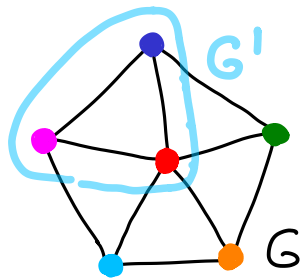
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i.e., $G \in \text{CIRCULAR-ARC}$

REP EXT: $G + \mathcal{R}' \stackrel{?}{\rightarrow} \mathcal{R}$

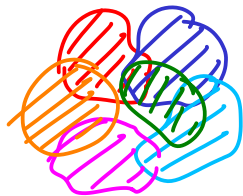
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The complexity of PARTIAL REPRESENTATION EXTENSION of CIRCULAR-ARC graphs?

Motivation? Intersection graphs
of connected sets in X .



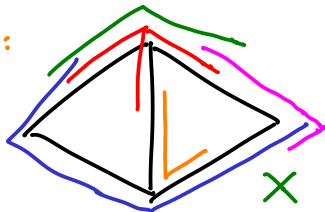
2D: X is more complicated

X is plane STRING graphs

} RECOG
is
hard

1D: Question of Z. Tuza:

X is topological graph



RECOG
??

X is a circle CIRCULAR-ARC ??

X is a fixed tree subclass of CHOR

X is a segment INT graphs

} REPEXT
is poly