20.4.3
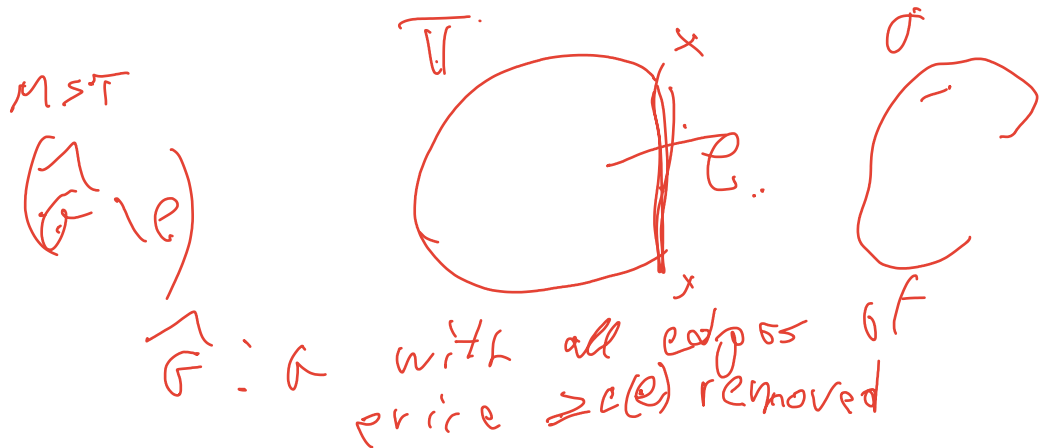# The unsafe edges are NOT in the MST

Cycle Property

Lemma 20.6.
If e is an unsafe edge then no MST *of G contains e.*

MST

$(\widehat{G} \setminus e)$

$\overline{T}$

x

σ

e

x

$\widehat{G} : G$ with all edges of price $\geq c(e)$ removed

Cycle Property

Lemma 20.6.
If e is an unsafe edge then no MST of G contains e.

Proof.
Exercise. □

Note: Cut and Cycle properties hold even when edge costs are not distinct. Safe and unsafe definitions do not rely on distinct cost assumption.

THE END

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(for now)