Reducable Taskset

Assume

ID-ordering: (Well-Formedness)

(1) $\forall (f, \_, F \circ FS) \in TS.\ F = \langle FINISH\ f' \rangle \rightarrow f < f'$

ID-uniqueness:

$\forall T, T' \in TS.\ T \neq T' \wedge T = (\_, \_, \langle FINISH\ f \rangle \circ \_) \wedge T' = (\_, \_, \langle FINISH\ f' \rangle \circ \_) \rightarrow f \neq f'$

(2) $TS \neq \emptyset \wedge TS$ finite

Show: $\exists (\_, F \circ FS) \in TS, f.\ F = \langle FINISH\ f \rangle \wedge \nexists (f, FS') \in TS$

$\vee\ F \neq \langle FINISH\ f \rangle$

Proof by contradiction:

Assume $\forall (\_, \_, F \circ FS) \in TS.\ \exists f.\ F = \langle FINISH\ f \rangle \wedge \exists (f, \_, FS') \in TS$

$\forall T \in TS.\ \exists T' \in TS, f, g.\ (f, \_, \_) = T \wedge (g, \_, \_) = T' \wedge f < g$ by (1)

↯ Contradiction: (1), (2) implies that a maximal element exist in TS