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	CS130 - Partial Order Sunnary
	, See 19
-	Consider a Set P and a relation Rn
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	(P, R, ) is a partially ordered set if the relation is reflexave, antisymetric, and bransitive.  Delation called partial ordering Set called poset.
# . F x	the relation is reflexive, artismmetric, and
	bransitive.
	Relation Called Parial ordering
-	Set called poset.
	A Subcategory of this is total order
	which are when every element relates
	A Sublategory of this is total orders which are when every element relates to every other element:  x ny y nx
·	$\propto \sim y  y \sim x$
	Ax, y EP. Will More
	Two elements of celled a company
	Two elements are called in comparable if
	Two elements are called in comparable if there is no relation either way between them:
	Y W F P Y du A W de X
	$x,y \in P$ . $x \neq y \wedge y \neq x$
	An element is Called least if it is
	An element is called least if it is released to every other element
	VyEP XNY (x &y)
	7 7 . 32 3
	An element is called greatest if it is related to by every other element
	related to by every other element
· · · · · · · · · · · · · · · · · · ·	Ayer yrx (yex)

An element is called minimal if it is related to no other element y ∈ P ynx ⇒ y=x An element is called maximal if it relates to no other element

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\forall y \in \text{P} \quad \times \times \times \quad \times \times \quad \quad \times \quad \quad \times \quad \times \quad \times \quad \quad \times \quad \times \quad Hasse diagrans are representations of partial orders defined as the directed gaph: G = (P, & (x,y): x ~ y }) For example: (7, 5)