eg. w= university, p= university, q='

Transitive we show that is a partial and Take was a prefix of y n order to show hat a is a partial ∀ p, w ∈ E*. (p, w) ∈ Z* p is a prefix of w p = w w= pq] ho Reflexive: FPPEE. Yw, y E Z* y w, y E Z* p is a prefix of y WEYEY = WIT We obtain we university of itself

We obtain we university of itself p.q.r=y > p = y ord [p=x] b) let < C 5* × 5* be a relation such that for p~w, for p,w E Z* if p is a proper prefix of w. Show that & is a strict partial In order to show that - is a strict partial order on Ex, it should be irreflexive, asymmetric and transitive W= pg W=1 · Irreflexive Because of the condition in the question p = w. The prefix p will always be different than w. Example: Consider the word 'university' uni < university (uni is a prefix of university) However university cannot be a prefix p = y except when p= w andinum to · Asymmetric signox bodo > do < bodo > odo > odo > do Again by the definition, p = w. Assume pew is true But w<p is not true, as w cannot be the prefix of p lotos to dotot Hence the relation is asymmetric

Transitive took work of 19600 Myrrige arder on 5th to should be irrell Y p, w E 5* p is a proper prefix of w p < w pq = w -> p + W 91/19/1/9/1/ V wye E & w is a proper prefix of y and Evolute IW Ky XP=W·rall Wife > W # YNOA transtib Example: (ansider the word 'aniversity' We inhave x 900 p.q. rime y herovar in However university count be a prefix p x y except when p= w and w=y Example: Sintemory. A. ab ~ abc , abc ~ abcd > ab ~ abcd Again by the definition p + W Assume page is true are not total thence the relation is asymmetric

Example: p="lion"
w= "tiger"

 $(p, w) \notin X$ and $(w, p) \notin X$ $(p, w) \notin X$ and $(w, p) \notin X$ a) If gof is bijective, then f is injective and g is surjective By definition if got is bijective, it is also injective and surjective. · It got is injective, then I is injective Proof Let $x, y \in B$ such that f(x) = f(y). Since g is a function, we have g(f(x)) = g(f(y)), and since $g \circ f$ is injective, this implies x = y. Thus $f(x) = f(y) \Rightarrow x = y$, or we just say that $f(x) = f(y) \Rightarrow x = y$, or we just say

If got is surjective then a is surjective
If got is surjective then g is surjective
Proof
1 - 1)
Let ve C. Since gof is surjective,
$\exists x \in A$ such that $g(f(x)) = y$. Since $f(x) \in B$
Let $y \in C$. Since $g \circ f$ is surjective, $\exists x \in A$ such that $g(f(x)) = y$. Since $f(x) \in B$ is in the domain of g , we say that g is surjective
q is surjective on the state
Surjective /
No. of the second secon
In this way we proved that if gof is bijective, then I is injective and go is surjective
is bijective, then I is injective and g
is surjective
b) g°f is not bijective, but f is injective and g is surjective
g is sujective
A + 8 (+> injective because every
element of the function's
codomain is the image of
at most one element of its doma
"3" is mapped by more than onto a domain C.
"3" is mapped by more than onto a domain C.

n

and g is not injective Define $g: R^2 \rightarrow R$ by f(x,y) = x $f: R \rightarrow R^2$ by g(x) = (X,0)Then gof: R>Romis bijective.
but g is not injective and f is not surjective. In this way we proved that if got is bijective then I is injective and a is suggestive but I is injective and sibolid for el topo SVILLE SUBJECTIVE f-> injective percose theitsout ent on tormela to senous aft a monopo et la terrole no tron to of to amond authorities - p