PATH IN A GRAPH. G2(VIR).

A path from Vestices a to b (a,b & V). In G.

if I a Sequence of edges Such that (a, x,), (x, x, x) --
(xy, -, xy), (xy, b).

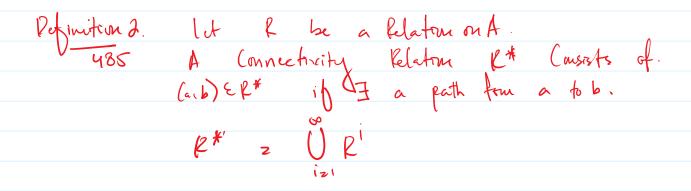
Hengih of a path. (Vertices-1) a bed 6-1=3
Number of (a1b)(b1e)(e1d). 23.
edges.

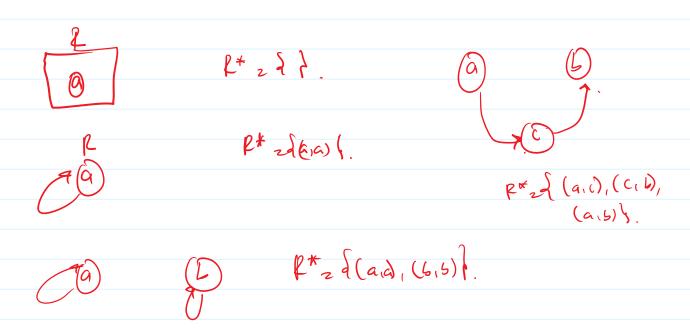
theorem 1:- Let & be a Relation on A.

485 \(\frac{1}{485} = \frac{1}{485} = \frac{1}{485} \text{ form a to b (a,b \in V). if and only if.

(a,b) \(\in V \).

Perinition 2. let R be a felation on A.





has met by. Az Set of people. Ex4:- R2 (a,6) (a what is Ru 27 What 13 P* =? Perizian. R (aib) AKB afAibEB (bic) BAC. beBICEC. Ru will (autor (a16) when I Xz-- Kn-1 Such that 36 (ab) ERA (LO) ES. (and) & Soft Th (aib) ERA (bid) ER. a has met a, (a,c) EloR x, has met 12 IX, (a, X) ERN (K) B) ER (a, b) E ROR My-z has mot Xu-1 (a,b) E R2 Ix, a has met ki 1 Kilos Kn-1 4 4 6. met b.

R* will Cartain (a,b). if I any Number people between and.
6 y b.
and.
α κ_{l}
Ex6:- Pid(a,b) a aud b hos a Common border de.
486
What is Ph27 An Set of States in Us. What is Px27 Revision.
What is R* 27
·
7 R (a,b) AKB a EA, b EB
S (b,c) BKC. LEB,CE
(a,v) & SOR 36 (a,b) ERA (b,0) ES.
(a,c) & for Ib (a,b) & RA (b,c) & S. (a,c) & for Ib (a,b) & RA (b,c) & S.
(a, b) E ROR 3 x; (a, xi) ER N (x1, b) ER
(a,b) ER2 = IK, a and K, has a Commbood
A x, and b has a Cambord
Me we have a fact to the fact
the Algorithm for Housitive Closure 2 WARSHAL ALGO.
Me Wildelling Land Land Land Consider & CAMPSHILL MERON
Pha1-622-63 Ex Q1-30.
1 49 CUITS EX UITS.
EQUIVELENCE RELATION. avrb. =. (a,b) ER.
2 RUMPELENCE FELATION. CV (R.S. S. CAIB) E.C.
1- Replexive. 2- Symmetriz. 3- Transitive.
2 - Transkus
J' Mousi Tine.
Exa: - R2d(a,6) a-b & Z] A2 R.
4a4 (a,b) a-625 (+21)
1- Reflixing. Va EA (a,a) ER
2- KYTIKIM. VACA (MA)EK

1- Rellevine ta EA (a,a) ER
1- Reflixing. Va EA (a,a) ER. Va ER a-a EZ!
2- Symmetric Hair EA if (a.6) ER -> (b.a) ER. tail ER if a-b EZ -> b-a EZ.
3- Transiture Varonc Et if (ab) Et / (bic) El > (ait) El Varonc El if a-b E T / b-c E T > a-c E T
Vince Equivelance Relation
Exy: - fra(a,b) azbmodu) m71, m72† 494 422.
1- Réflirine. Va EA (a,a) ER Va EZ azamodm.
2- Symmetric Hair EA if (a.6) ER -> (b.a) ER. Hair EZ if az b mod m -> bza mod m!
3- Transiture Vajore Et if (a,b) Et A (b,c) Et > (a,t) Et. Haine Ez if az b modur A bz c modur > az c modur.
Hence Equivelence.
Ex6 P= S(a,6) a divides b) A=Z.
1- Reflirine. Va EA (a,a) ER. Va EZ a divide a V

2- Symmetric tail EA if (ab) ER -> (ha) ER. X tail EZ if a dividu b -> 2 dividus a.
3- Transitue Varonc Et if (anb) Et A (bnd) ER -> (ant) ER.
Not Equivelines.
12x7; - Rzg(a,b)/19-6/22. AzR.
1- Reflixing. Va EA (a,a) ER. Va ER la-d C2.
2- Symmetric tail EA of (ab) ER -> (ba) ER. tail EA. of la-b1<1 -> 16-a1<1.
3- Transiture taper Et if (a,b) Et 1 (b,c) Et -> (a,t) Et. taper ER i) (a-b) < 2 4 b-c < 2 -> 1a-c < 1, the second of the s
0.2 0.9 0.91.5 K
Mat & acinologie.