Kelation
A= {a,, n2, n3} R= \(\{a_1, b_2\} \) (a,, b_3) \\.
13= {bi, be, bs} is a relation from A to B.
<u> </u>
Ø = A × 13
AxB & AxB.
The domain of the relation rear R. 25 Dom (r) = 30 GA 12 LEP cuch that laible
The domain of the relation r = AxB. is Dom (r) = 3 acA 3 be B such that (a.b) El The range = 25 Ran (r) = 2 be B 3 acA
The range han on - grows such
0 1. A. S. 2 2 R. S. 11 12 12 2
e.f. A= {1,2,3} B= {11,12,13}.
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
5 - 3 Ran (r) - 3 11,12,15 .
Inverse: the inverse of R = x R' = x lb, a) 6 B*A (la,b) ER }.
the inverse of R 25 R 2 8 (b, a) 6 B&A (la, b) EX S.
Proof: (K) = R.
Let (4,6) 6 A & B. Then (a, b) 6 (2) 'iff (b, a) 6 2 (definition),
Proof: (R')-1=R. Let (a,b) 6 A = B. Then (a,b) 6 (R')-1277 (b,a) 6 2 (defination), So (R')-1=R. D.
So (2") -1 = R D.
Proof Rank?) = Dom (R). Let ac A. Then ac Ran (R) 177 3 66 B (16,a) 6R7)
Let acA. Then ac Ran (R) 177 366 R (Lb, a) GRT)
277 3 66 B (la, b) G R).
277 ac Dom (R),
Det comp.
Parent & CANB CERXI He is accretion of P and Cre
Given 2 = AxB S = BxC. the composition of 2 and S 25 SoR= {(a,c)GAxC 3b (a,b) tRA(b,c) (5 }.
5° ~ { (M, C) 6/1 ~ C 3 & (a, 5) (R / (b, C) C > },