```
lecture Di- proposties of Relations:
1- Réplieure V (lecture 20)
                                                    A, B.
R ⊆ AxB.
2- Symmeter.
                                                          HRBIZIAIKIBI.
 Haib EA if (a, b) ER -> (b,a) ER
                                                        Total Subsets. of ANB.
Ex7 P462. Az $ 1,2,3,63.
                                                         2 AKBI ZIAI KIBI
     R12 & (1,1), (1,2), (2,1), (2,1), (3,4), (4,1), (4,1)
             ababababababab
                                              (2,2)ER > (2,2)ER
             1/ (1/1) ER -> (1/2) ER: L
                                               (3,W) ER -> (4,3) &R_X,
               (112) ER -> (2,1) ER. C
                                                (4,1) ER → (2h) VRX,
               (21) ER -> (1,2) ERL
                                               Ryz & (2, D, (3, 1), (4,3), (2,3).
                       R32 & (1,2) g.
  R2 4 6
3- Anti Symmetric; - Haib EA if (a16) ER A (b12) ER > a26.
Ex7 Ph62. A= { 2, 2, 3, 4}.
   P12 & (1.1), (2.1), (1.2), (3.4), (4.4)}
                                        [(2,2)ER 1(1,2) => 2/1
 laz f.
  R32 2 (2,2)}
 BK15 P.464: Is the dividus Relation on Zt
D Symmetric.
2) Auti Symmetric.
R2 & (a,b) a divides b &. Zt

Symmetric:-

ta EA if (a,b) ER > (b,a) ER.
                                                     a divided by b = a:b=a
                                                     a dividus b z big z b
  tha Ezt if a divides b -> b dividus a
                                                     \begin{array}{cccc} (1, \lambda) & & \\ 1 & \text{dividus } \lambda & = & \frac{\lambda}{1} = \lambda, \end{array}
                 COLDER -> COLDER
```

(214) ER -> (4,2) GK. Symmetric does not hold.

Auti Symmetric: - Vaib EA if (a,b) ERM (b,a) ER -> azb. Hail Ezt if a divides b 1 b divides a -> azlo. It is Auti Symmetric. 3- Transitive: - Haibic & A If (a,b) ER 1(bic) ER -> (a,c) ER. Az 2 1, 2, 3, 4) Ex 7 8462. R22 & (1,1), (1,2), (2,1), (2,2), (3,4), (4,1), (4,4) . X. laz de P3 2 & (4, D), (2, d), (3,3), (1,d) } En. R27 (a16) a 768. Az Z. Symmetrici- Hair EA if (aib) ER > (bia) ER. Yaib EZ 1) azb - bza. $371 \rightarrow 173$ $(3.1)ER \rightarrow (1.3)RR$ Auti Symmetric: Vaib EA if (a,b)ERA(b,a)ER -> azb. (a716 1 67/a) -> (a26) Haib EZ The is Auti Symmetric. Transitive Yaibic EA of land) ER M(6, DER -> (a, C) ER. Yaibic EZ 1 a76 Ab76 - a76. 37,1 N 1 7,0 -> 37,0. ta EA la, a) Ef. fertarine. aza Va EZ

Hais EA if-Carb) ER M(bia) ER - azb.

a76 1 579 -> a26. Homework [795, C) Ex Question. P466, 467, 468.

Tommaton
Mornay-