

Functional Dependencies

$$R = (A, B, C, D, E, H)$$

① $F = \{ A \rightarrow C, AC \rightarrow D, E \rightarrow AD, E \rightarrow H \}$

extra rny $A \rightarrow D$
 $E \rightarrow ADH$

C atribut ekstra pd $AC \rightarrow D$

$$A^+ : A \rightarrow AC \rightarrow A/D$$

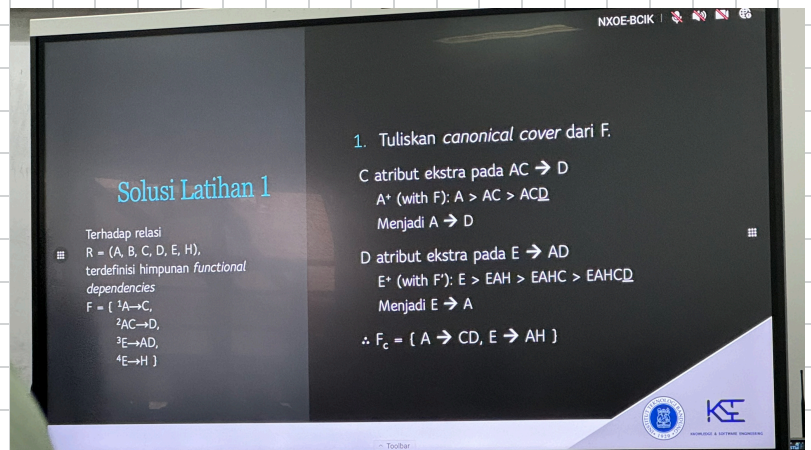
↳ C bisa dihilangkan rny $A \rightarrow D$

D atribut ekstra pd $E \rightarrow AD$

$$E^+ : E \rightarrow EAH \rightarrow EAHC \rightarrow \cancel{EAHD}$$

↳ jadi $E \rightarrow A$

$$\therefore F_c = \{ A \rightarrow CD, E \rightarrow AH \}$$



② Apakah F ekuivalen dgn $G = \{ A \rightarrow CD, E \rightarrow ACH, EB \rightarrow D \}$

syarat ekuivalen \rightarrow punya F^+ yg sama

1) Apakah F cover dr G? \rightarrow cek semua FD pd G dpt diturunkan dr F

$$A \rightarrow CD : A^+ \text{ (dr F) } = ACD$$

$$E \rightarrow ACH : E^+ \text{ (dr F) } = EADHC$$

$$EB \rightarrow D : EB^+ \text{ (dr F) } = EBADHC$$

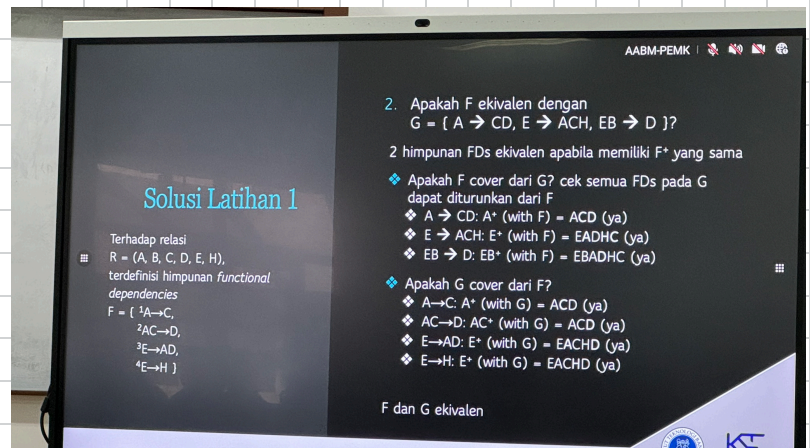
Apakah G cover F? \rightarrow cek FD dr F dpt diturunkan dr G

$$A \rightarrow C : A^+ \text{ (dr G) } = AC$$

$$AC \rightarrow D : AC^+ \text{ (dr G) } = ACD$$

$$E \rightarrow AD : E^+ \text{ (dr G) } = EADHC$$

$$E \rightarrow H : E^+ \text{ (dr G) } = EADHC$$



\therefore Kmn F^+ dan G^+ sama,

mk F & G ekuivalen

③ $F_c = \{ A \rightarrow CD, E \rightarrow AH \}$

candidate key = BE ; berada dlm btk normal brp R?

AH bergantung ke E

CD bergantung ke A shg bergantung jg ke E

1 NF : ya krn semua FD atomik

2 NF : tak krn semua hny bergantung pd E, tak ada yg bergantung ke B

\therefore R berada di 1 NF