מסדי נתונים

נורמליזציה

רמות נירמול

- NF1 - Every attribute must hold a single atomic value (searchability)
- NF2 - Non-prime attributes don't depend on a (strict) subset of a candidate key.
- NF3 - Non-prime attributes cannot depend on any set that isn't a super-key (transitive dependency).
- NF3.5 (BCNF) - For any two sets, X, Y, ($Y \not\subseteq X$) such that $X \rightarrow Y$, X is a super-key.
- NF4 - no multivalued dependencies.

תרגילים

- R(A,B,C,D)
  - A->BCD
  - BC->AD
  - D->B

- Candidate Key

{A}, {BC}, {CD}

- NF3

- R(A,B,C,D,E)
  - A->B
  - ED->A
  - BC->E

- Candidate Key

{ACD}, {BCD}, {ECD}

- NF3

- R(A,B,C,D,E,F,G,H)
  - AB->C
  - BD->EF
  - AD->G
  - A->H

- Candidate Key

{ABD}

- NF1

- R(A,B,C,D,E,F,G,H)
  - AB -> C
  - A -> DF
  - B ->F
  - F ->GH

- Candidate Key

{ABE}

- NF1

- R(A,B,C,D,E)
  - BC -> ADE
  - D ->B

- Candidate Key

{CB}, {CD}

- NF3

- R(A,B,C,D,E)
  - AB -> CD
  - D -> A
  - BC -> DE

- Candidate Key

{BA}, {BC}, {BD}

- NF3

- R(A,B,C,D,E,F)
  - A -> B
  - ED -> F
  - BC ->E

- Candidate Key

{ACD}

- NF1

- R(A,B,C,D)
  - D -> B
  - AB -> C
  - AB -> D
  - C -> A

- Candidate Key

{AB}, {AD}, {BC}, {CD}

- NF3

- R(W,X,Y,Z)
  - Z -> W
  - Y -> XZ
  - WX -> Y

- Candidate Key

{Y}, {ZX}, {WX}

- NF3

- R(A,B,C,D,E,F,G,H)
  - CH ->G
  - A -> BC
  - B -> CFH
  - E ->A

- Candidate Key

{DE}

- NF1

- R(A,B,C,D,E)
  - A ->BC
  - CD -> E
  - B ->D
  - E-> A

- Candidate Key

{A}, {E}, {BC}, {CD}

- NF3