7.30. a. $B^+ = \{B, D, A, C, E\}$

b. $(AG)^+ = \{A, G, B, C, D, E\}$

∵ 用AG可以推出所有属性.

∴ AG是超码.

c. 去除元关属性D

$F' = \{A \to BC,\ BC \to E,\ B \to D,\ D \to A\}$

去除元关属性

$F'' = \{A \to BC,\ BC \to E,\ B \to D,\ D \to A\}$

∴ $F_c = \{A \to BC,\ B \to E,\ B \to D,\ D \to A\}$

$B \to DE$

$B \to D \quad D \to A \quad A \to BC$

$B \to C$

d. F_c的候选码为 GB, GA, GD

分解 $R_1\{ABC\}, \{BCE\}, \{BD\}, \{DA\}, \{GB\}$.

e. F的候选码 AG.

① $A \to BCD$ $R_1\{ABCD\}$ $R_2\{AEG\}$

② $A \to E$ $R_1\{ABCD\}$ $R_{11}\{AE\}$ $R_{12}\{AG\}$