

ECE 474A/574A Exam3 Cheat Sheet

<pre> UNATE_COMPLEMENT(F) begin M ← M(F) V ← MONOTONE(F) M' ← PERS_UNATE_COMPLEMENT(M) R ← TRANSLATE(M', V) end </pre>	<pre> PERS_UNATE_COMPLEMENT(M) begin M' ← Φ (M', T) ← SPECIAL_CASES(M) if (T=1) return (M') j ← UCOMP_SELECT(M) (M¹, M⁰) ← PERS_COFACTORS(M, j) M¹' ← PERS_UNATE_COMPLEMENT(M¹) M⁰' ← PERS_UNATE_COMPLEMENT(M⁰) Return(M' ← MERGE(M¹', M⁰')) end </pre>	<pre> COMPLEMENT(F, D) begin R ← Φ for (i=1, ..., m) begin (F_i, D_i) ← EXTRACT(F, D, i) R_i ← COMP1(F_i ∪ D_i) R ← R, R_i end Return(R) end </pre>
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<pre> COMP1(F) begin if (row of all 2's) Return (R ← Φ) if (F unate) Return (R ← UNATE_COMPLEMENT(F)) c ← F¹ for(j=1, ..., n) begin for(i=2, ..., F) if(c_i ≠ F_j) then c_i ← 2 end R ← UNATE_COMPLEMENT({c}) F ← F_c j ← BINATE_SELECT(F) R ← R, MERGE_WITH_CONTAINMENT(COMP1(F_{x_j}), COMP1(F_{x_j'})) Return end </pre>	<pre> EXPAND(F, R) begin F ← DECREASING_ORDER(F) for (j=1, ..., F) begin (W, F_j) ← EXPAND1(F_j, R, F) F ← (F ∪ {F_j}) - W end Return(F) end </pre>	<pre> EXPAND1(c, F, R) begin (B, C) ← MATRICIES(c, F, R) L ← Φ RA ← Φ N ← NCOLS(B) while (L + RA < N and B≠Φ and C≠Φ) begin X_E ← ESSENTIAL(B) L ← L ∪ X_E (B, C) ← ELIM1(B, C, X_E) J[*] ← MFC(B, C) if(J[*] = 0) J[*] ← EG(C) X_I ← INESSENTIAL(B) RA ← RA ∪ J[*] ∪ X_I (B,C) ← ELIM2(B, C, J[*] ∪ X_I) end if(B≠Φ) then L ← MINLOW(B) W ← {Fⁱ ∈ F C_{ij} = 0 for all j ∈ L} return (W, c+(L,c)) end </pre>
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