Картка 15

R(A, B, C, D, E, F, G)

A -> BC; C -> DE;  
FB -> DC; D -> EF;

F -> CE;

1. A -> B; A1+ = {A, C, D, E, F} 1
2. A -> C; A2+ = {A, B} 1
3. C -> D; C3+ = {C, E} 1
4. C -> E; C4+ = {C, D, E, ...} (~~3~~, 7)
5. FB -> D; FB5+ = {F, B, C, D, …} (6, ~~3~~)
6. FB -> C; FB6+ = {F, B, D, E, C, ...} (5, ~~8~~, ~~9~~)
7. D -> E; D7+ = {D, F, C, E, …} (~~8~~, (~~9~~, 4), 10)
8. D -> F; D8+ = {D, E} 1
9. F -> C; F9+ = {F, E} 1
10. F -> E; F10+ = {F, C, D, E, …} (~~9~~, (~~3~~, 7), 4)

4 <- 7

5 <- 6 <- 5

7 <- 4 | 10

10 <- 4 | 7

Викреслюємо 6), 7), 10)

Антинадлишковість лівої частини

1. A -> B;
2. A -> C;
3. C -> D;
4. C -> E;
5. FB -> D; F+ = {F, C, D, …}; B+ = {B};

8) D -> F;

9) F -> C;

1. A -> B;
2. A -> C;
3. C -> D;
4. C -> E;
5. F -> D;
6. D -> F;
7. F -> C;
8. A -> BC;
9. C -> DE;

5) F -> DC;

8) D -> F;

Декомпозиція

R1(DF) R1 (A, B, C, D, E, G)

R2(CDE) R2 (A, B, C, G)

R3(ABC) R3 (A, G)

R4(AG)

R(A, B, C, D, E, F, G), R1(DF), R2(CDE), R3(ABC), R4(AG)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | A | B | C | D | E | F | G |
| R1 | B11 | B12 | B13 | A4 | B15 | A6 | B17 |
| R2 | B21 | B22 | A3 | A4 | A5 | B26 A6 | B27 |
| R3 | A1 | A2 | A3 | B34 A4 | B35 A5 | B36 B26 A6 | B37 |
| R4 | A1 | B42 A2 | B43 A3 | B44 A4 | B45 A5 | B46 B26 A6 | A7 |

Висновок: TRUE.