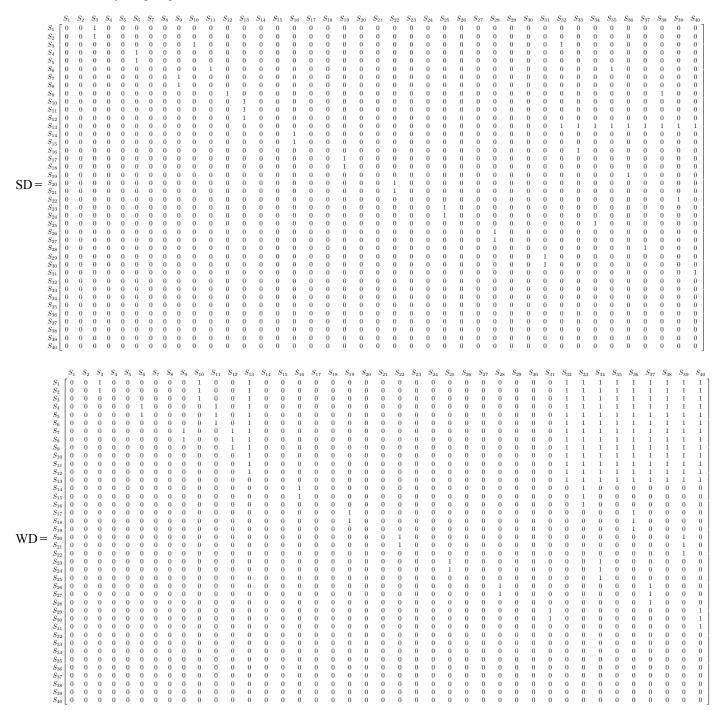
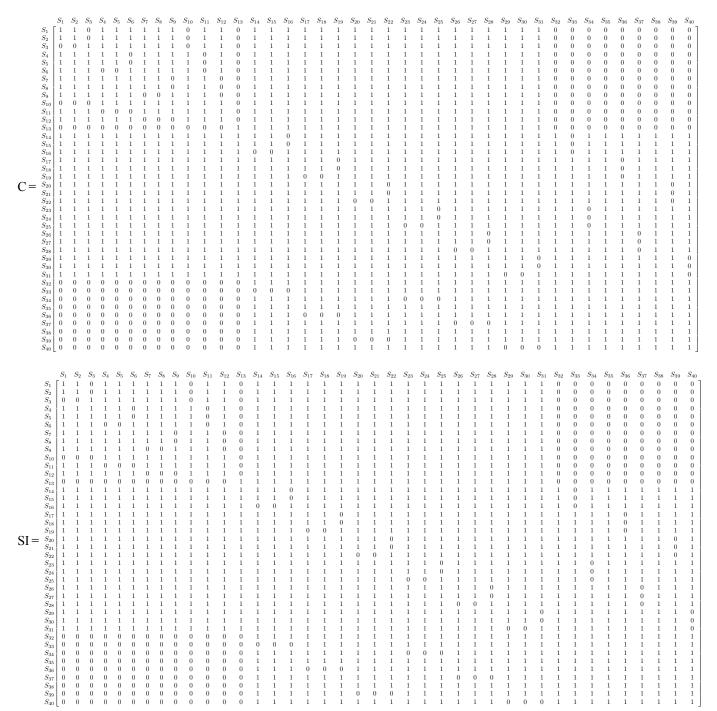
ПРИЛОЖЕНИЕ А

Итерация №1





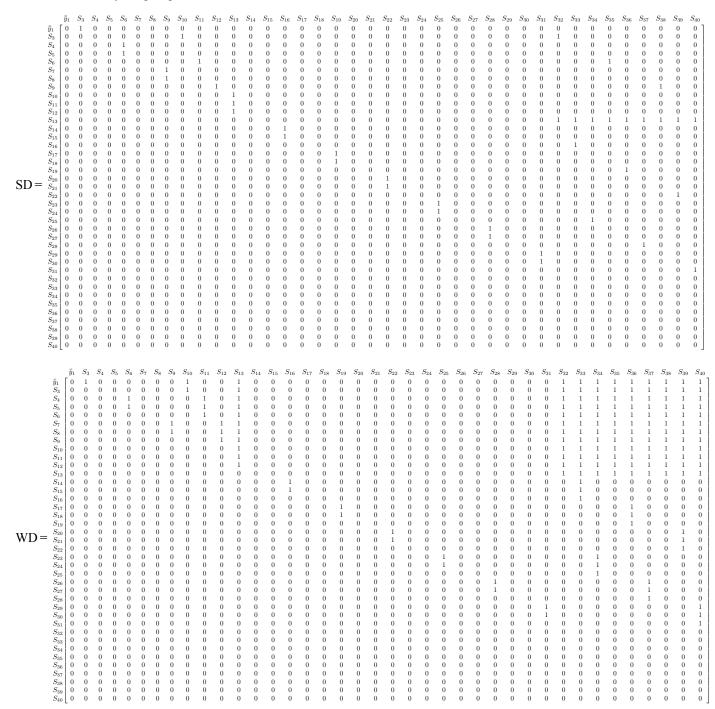
Проверка условия приводимости программы к ППФ (5 из 577):

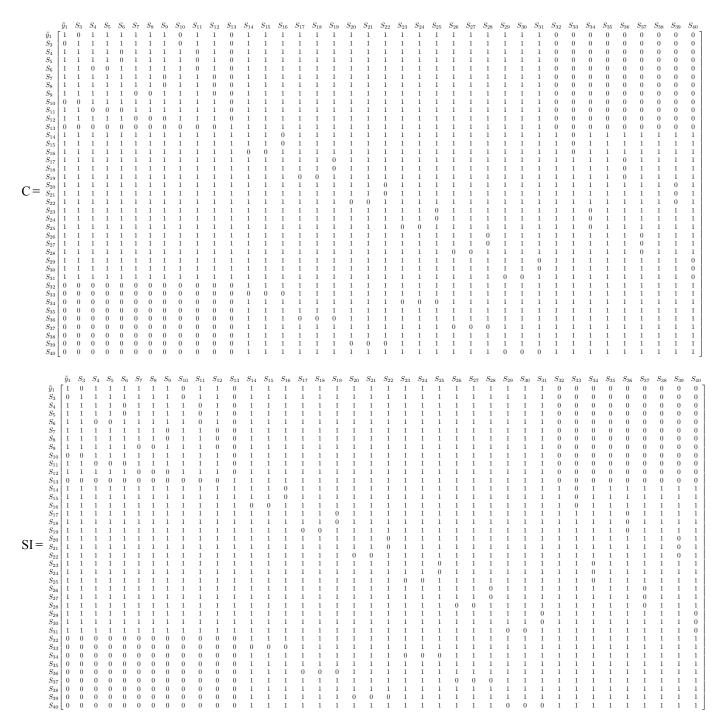
```
1)S_1 \nrightarrow S_4 2)S_3 E(S_1) = \{S_3, S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} E(S_4) = \{S_6, S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} N_1(S_1, S_4) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} N_2(S_1, S_4) = \{S_3, S_{10}, S_6, S_{11}\} E(S_3) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} S_3 \in N_2(S_1, S_4) - \text{выполняется} N_1(S_1, S_4) \subseteq E(S_3) - \text{выполняется} выполняется
```

$$\begin{array}{l} 1)S_1 \nrightarrow S_5 \\ 2)S_3 \\ E(S_1) = \{S_3, S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(S_5) = \{S_6, S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ N_1(S_1, S_5) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \end{array}$$

```
N_2(S_1, S_5) = \{S_3, S_{10}, S_6, S_{11}\}\
E(S_3) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_3 \in N_2(S_1, S_5) — выполняется
N_1(S_1,S_5)\subseteq E(S_3) — выполняется
выполняется
1)S_1 \nrightarrow S_6
2)S_3
E(S_1) = \{S_3, S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_6) = \{S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(S_1, S_6) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(S_1, S_6) = \{S_3, S_{10}, S_{11}\}
E(S_3) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_3 \in N_2(S_1, S_6) — выполняется
N_1(S_1,S_6)\subseteq E(S_3) — выполняется
выполняется
1)S_1 \nrightarrow S_7
2)S_3
E(S_1) = \{S_3, S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_7) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(S_1, S_7) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(S_1, S_7) = \{S_3, S_{10}, S_9, S_{12}\}
E(S_3) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_3 \in N_2(S_1, S_7) — выполняется
N_1(S_1, S_7) \subseteq E(S_3) – выполняется
выполняется
1)S_1 \nrightarrow S_8
2)S_3
E(S_1) = \{S_3, S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_8) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(S_1, S_8) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(S_1, S_8) = \{S_3, S_{10}, S_9, S_{12}\}
E(S_3) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_3 \in N_2(S_1,S_8) — выполняется
N_1(S_1, S_8) \subseteq E(S_3) — выполняется
выполняется
```

На текущей итерации был выделен паралллельный групповой оператор $\bar{y}_1 = \{S_1, S_2\}$



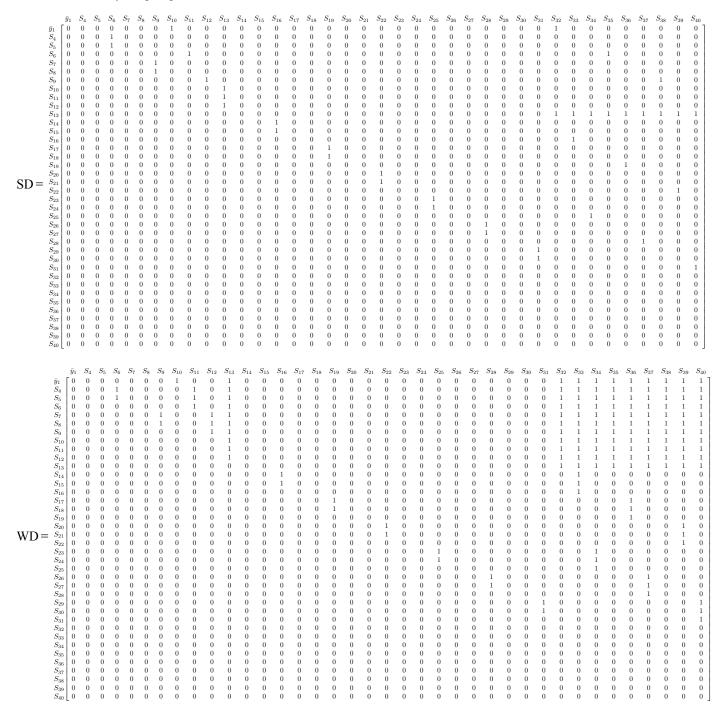


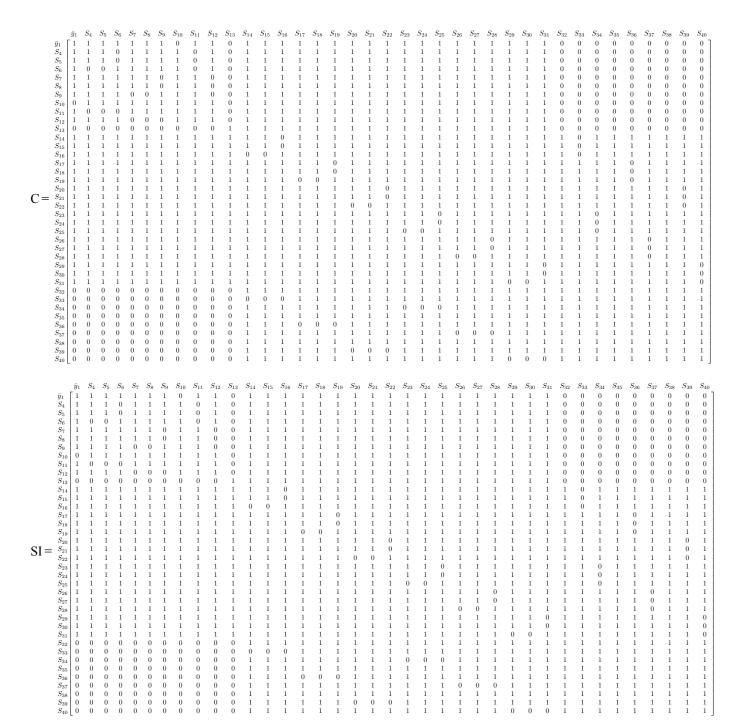
Проверка условия приводимости программы к ППФ (5 из 551):

```
\begin{array}{l} 1)\bar{y}_1 \nrightarrow S_4 \\ 2)S_3 \\ E(\bar{y}_1) = \{S_3, S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(S_4) = \{S_6, S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ N_1(\bar{y}_1, S_4) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ N_2(\bar{y}_1, S_4) = \{S_3, S_{10}, S_6, S_{11}\} \\ E(S_3) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ S_3 \in N_2(\bar{y}_1, S_4) - \text{выполняется} \\ N_1(\bar{y}_1, S_4) \subseteq E(S_3) - \text{выполняется} \\ \text{выполняется} \\ 1)\bar{y}_1 \nrightarrow S_5 \\ 2)S_3 \\ E(\bar{y}_1) = \{S_3, S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(S_5) = \{S_6, S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ N_1(\bar{y}_1, S_5) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \end{array}
```

```
N_2(\bar{y}_1, S_5) = \{S_3, S_{10}, S_6, S_{11}\}\
E(S_3) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_3 \in N_2(ar{ar{y}}_1, S_5) — выполняется
N_1(\bar{\bar{y}}_1,S_5)\subseteq E(S_3) — выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_6
2)S_3
E(\bar{y}_1) = \{S_3, S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_6) = \{S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_6) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_6) = \{S_3, S_{10}, S_{11}\}
E(S_3) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_3 \in N_2(\bar{ar{y}}_1, S_6) — выполняется
N_1(\bar{\bar{y}}_1,S_6)\subseteq E(S_3) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_7
2)S_3
E(\bar{y}_1) = \{S_3, S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_7) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_7) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_7) = \{S_3, S_{10}, S_9, S_{12}\}
E(S_3) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_3 \in N_2(ar{ar{y}}_1, S_7) — выполняется
N_1(\bar{y}_1,S_7)\subseteq E(S_3) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_8
2)S_3
E(\bar{y}_1) = \{S_3, S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_8) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_8) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_8) = \{S_3, S_{10}, S_9, S_{12}\}
E(S_3) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_3 \in N_2(\bar{y}_1, S_8) — выполняется
N_1(\bar{y}_1, S_8) \subseteq E(S_3) — выполняется
выполняется
```

На текущей итерации был выделен последовательный групповой оператор $\bar{y}_1 = \{\bar{y}_1, S_3\}$





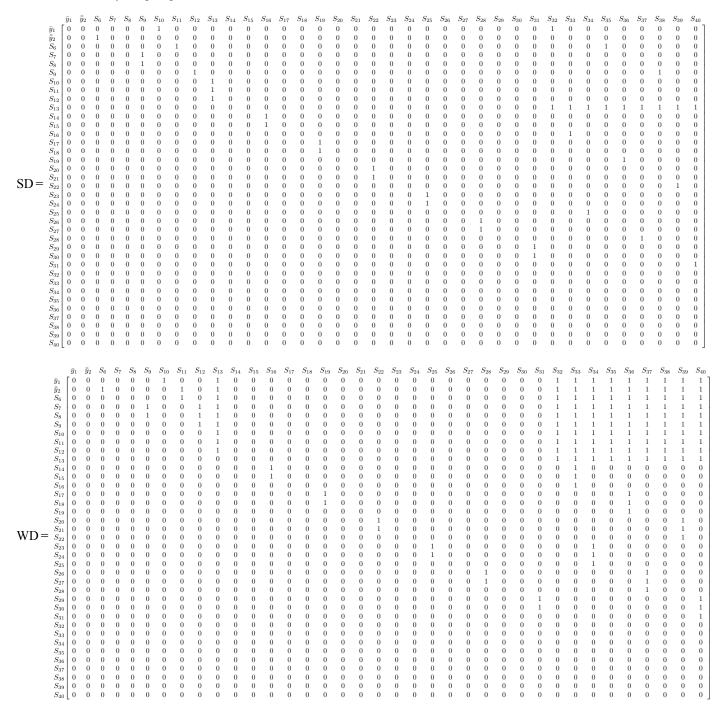
Проверка условия приводимости программы к ППФ (5 из 525):

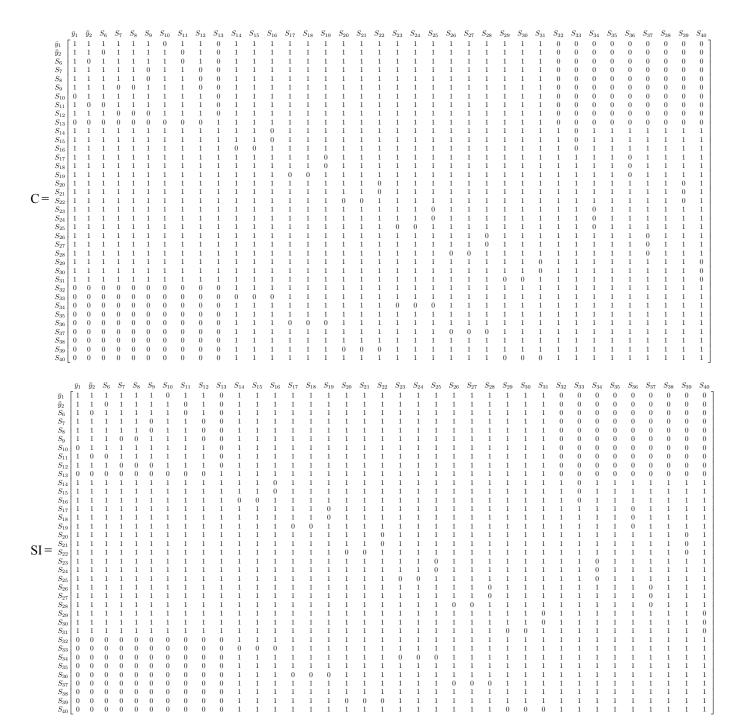
```
1)\bar{y}_1 \nrightarrow S_5 2)S_4 E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} E(S_5) = \{S_6, S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} N_1(\bar{y}_1, S_5) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} N_2(\bar{y}_1, S_5) = \{S_{10}, S_6, S_{11}\} E(S_4) = \{S_6, S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} S_4 \in N_2(\bar{y}_1, S_5) - \text{не выполняется} N_1(\bar{y}_1, S_5) \subseteq E(S_4) - \text{выполняется} не выполняется не выполняется 1)\bar{y}_1 \nrightarrow S_6 2)S_5 E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
```

 $E(S_6) = \{S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}$ $N_1(\bar{y}_1, S_6) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}$

```
N_2(\bar{y}_1, S_6) = \{S_{10}, S_{11}\}\
E(S_5) = \{S_6, S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_5 \in N_2(\bar{y}_1, S_6) — не выполняется
N_1(\bar{y}_1, S_6) \subseteq E(S_5) — выполняется
не выполняется
1)\bar{y}_1 \nrightarrow S_7
2)S_6
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_7) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_7) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_7) = \{S_{10}, S_9, S_{12}\}\
E(S_6) = \{S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_6 \in N_2(\bar{y}_1, S_7) — не выполняется
N_1(\bar{y}_1, S_7) \subseteq E(S_6) — выполняется
не выполняется
1)\bar{y}_1 \nrightarrow S_8
2)S_7
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_8) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_8) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_8) = \{S_{10}, S_9, S_{12}\}
E(S_7) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_7 \in N_2(ar{y}_1, S_8) — не выполняется
N_1(\bar{y}_1, S_8) \subseteq E(S_7) – выполняется
не выполняется
1)\bar{y}_1 \nrightarrow S_9
2)S_{8}
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_9) = \{S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_9) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_9) = \{S_{10}, S_{12}\}
E(S_8) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_8 \in N_2(\bar{y}_1, S_9) — не выполняется
N_1(\bar{y}_1, S_9) \subseteq E(S_8) — выполняется
не выполняется
```

На текущей итерации был выделен паралллельный групповой оператор $\bar{y}_2 = \{S_4, S_5\}$





Проверка условия приводимости программы к ППФ (5 из 501):

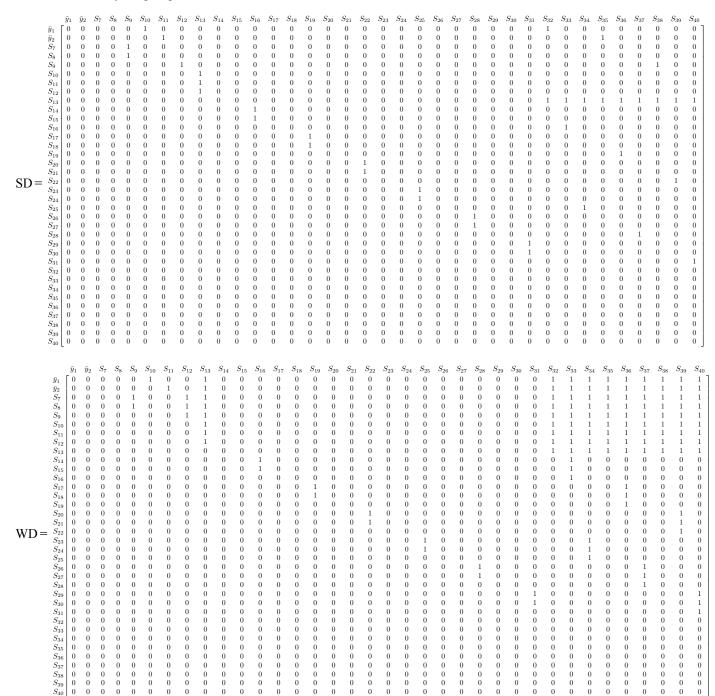
```
\begin{array}{l} 1)\bar{y}_1\nrightarrow S_6\\ 2)\bar{\bar{y}}_2\\ E(\bar{y}_1)=\{S_{10},S_{13},S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(S_6)=\{S_{11},S_{13},S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ N_1(\bar{y}_1,S_6)=\{S_{13},S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ N_2(\bar{y}_1,S_6)=\{S_{10},S_{11}\}\\ E(\bar{\bar{y}}_2)=\{S_6,S_{11},S_{13},S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ \bar{\bar{y}}_2\in N_2(\bar{y}_1,S_6)-\text{не выполняется}\\ N_1(\bar{y}_1,S_6)\subseteq E(\bar{\bar{y}}_2)-\text{выполняется}\\ \text{не выполняется}\\ 1)\bar{y}_1\nrightarrow S_7\\ \end{array}
```

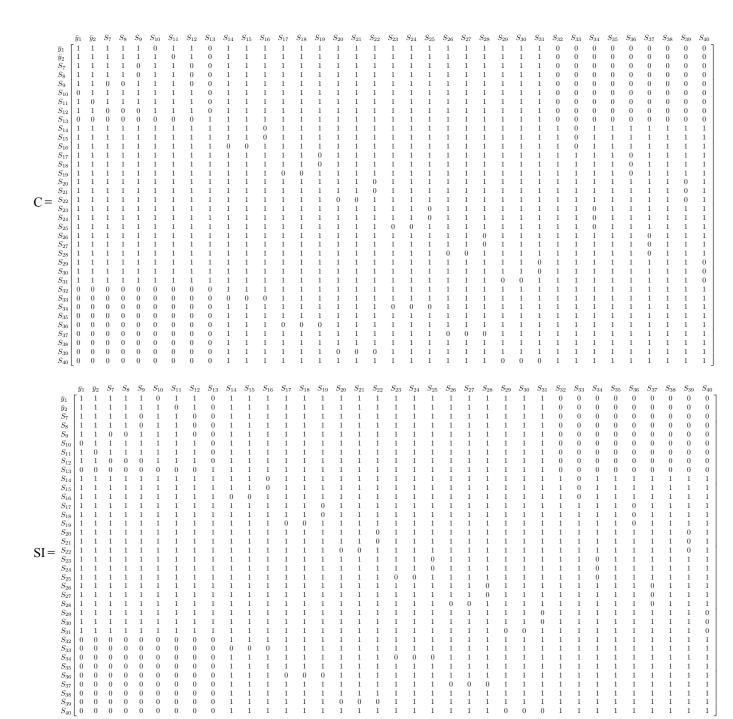
 $E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}$ $E(S_7) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}$ $N_1(\bar{y}_1, S_7) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}$

 $2)S_6$

```
N_2(\bar{y}_1, S_7) = \{S_{10}, S_9, S_{12}\}\
E(S_6) = \{S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_6 \in N_2(ar{y}_1,S_7) — не выполняется
N_1(\bar{y}_1, S_7) \subseteq E(S_6) — выполняется
не выполняется
1)\bar{y}_1 \nrightarrow S_8
2)S_7
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_8) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_8) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_8) = \{S_{10}, S_9, S_{12}\}
E(S_7) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_7 \in N_2(\bar{y}_1, S_8) — не выполняется
N_1(\bar{y}_1, S_8) \subseteq E(S_7) – выполняется
не выполняется
1)\bar{y}_1 \nrightarrow S_9
2)S_{8}
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_9) = \{S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_9) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_9) = \{S_{10}, S_{12}\}
E(S_8) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_8 \in N_2(ar{y}_1, S_9) — не выполняется
N_1(\bar{y}_1, S_9) \subseteq E(S_8) — выполняется
не выполняется
1)\bar{y}_1 \nrightarrow S_{11}
2)S_{10}
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{11}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_{11}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_{11}) = \{S_{10}\}\
E(S_{10}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_{10} \in N_2(\bar{y}_1, S_{11}) — выполняется
N_1(\bar{y}_1, S_{11}) \subseteq E(S_{10}) — выполняется
выполняется
```

На текущей итерации был выделен последовательный групповой оператор $\bar{y}_2 = \{\bar{y}_2, S_6\}$

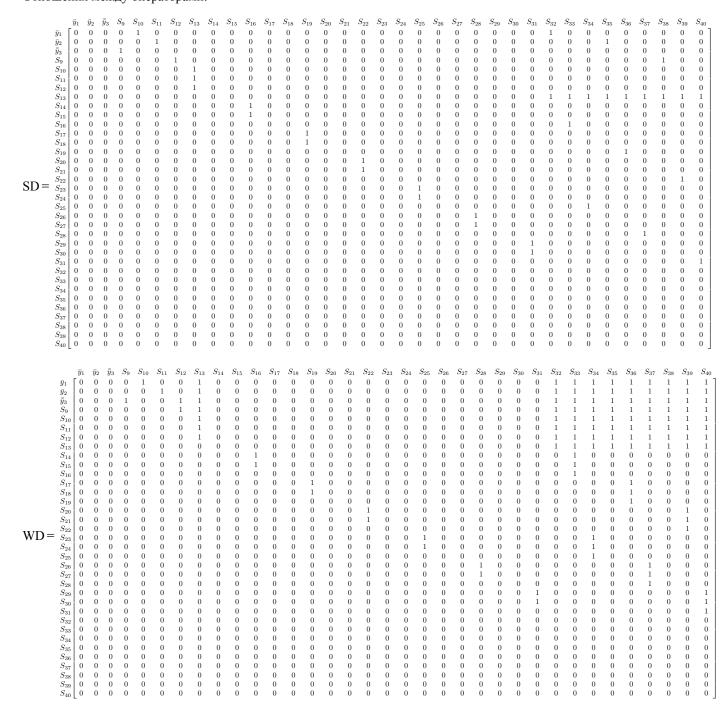


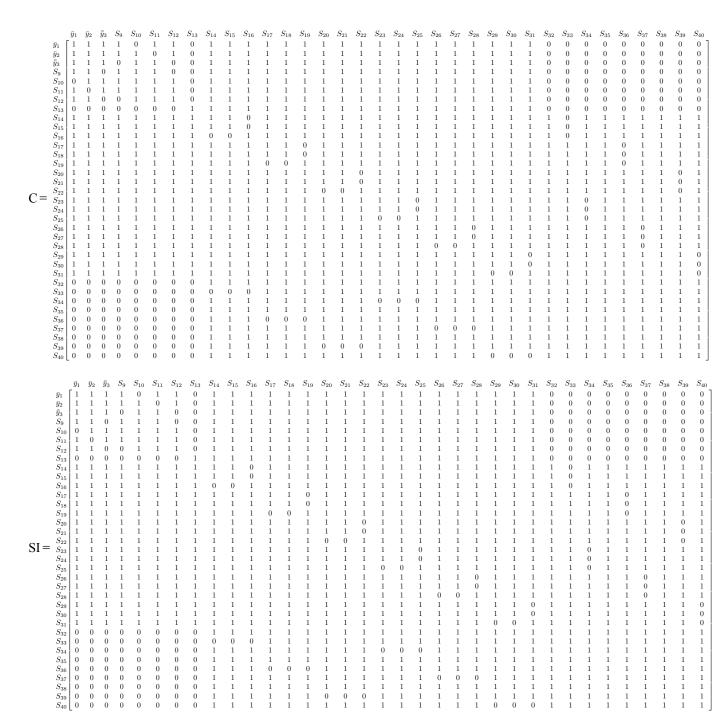


Проверка условия приводимости программы к ППФ (5 из 477):

```
1)\bar{y}_1 \nrightarrow S_7
2)\bar{y}_2
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_7) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_7) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_7) = \{S_{10}, S_9, S_{12}\}
E(\bar{y}_2) = \{S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{y}_2 \in N_2(ar{y}_1, S_7) — не выполняется
N_1(\bar{y}_1, S_7) \subseteq E(\bar{y}_2) – выполняется
не выполняется
1)\bar{y}_1 \nrightarrow S_8
2)S_7
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_8) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_8) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_8) = \{S_{10}, S_9, S_{12}\}
```

```
E(S_7) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_7 \in N_2(\bar{y}_1, S_8) — не выполняется
N_1(\bar{y}_1, S_8) \subseteq E(S_7) — выполняется
не выполняется
1)\bar{y}_1 \nrightarrow S_9
2)S_{8}
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_9) = \{S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_9) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_9) = \{S_{10}, S_{12}\}
E(S_8) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_8 \in N_2(\bar{y}_1, S_9) — не выполняется
N_1(ar{y}_1,S_9)\subseteq E(S_8) — выполняется
не выполняется
1)\bar{y}_1 \nrightarrow S_{11}
2)S_{10}
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{11}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_{11}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_{11}) = \{S_{10}\}\
E(S_{10}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_{10} \in N_2(\bar{y}_1, S_{11}) — выполняется
N_1(\bar{y}_1, S_{11}) \subseteq E(S_{10}) — выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{12}
2)S_{10}
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{12}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_{12}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_{12}) = \{S_{10}\}\
E(S_{10}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_{10} \in N_2(\bar{y}_1, S_{12}) — выполняется
N_1(\bar{y}_1, S_{12}) \subseteq E(S_{10}) — выполняется
выполняется
На текущей итерации был выделен паралллельный групповой оператор \bar{y}_3 = \{S_7, S_8\}
```



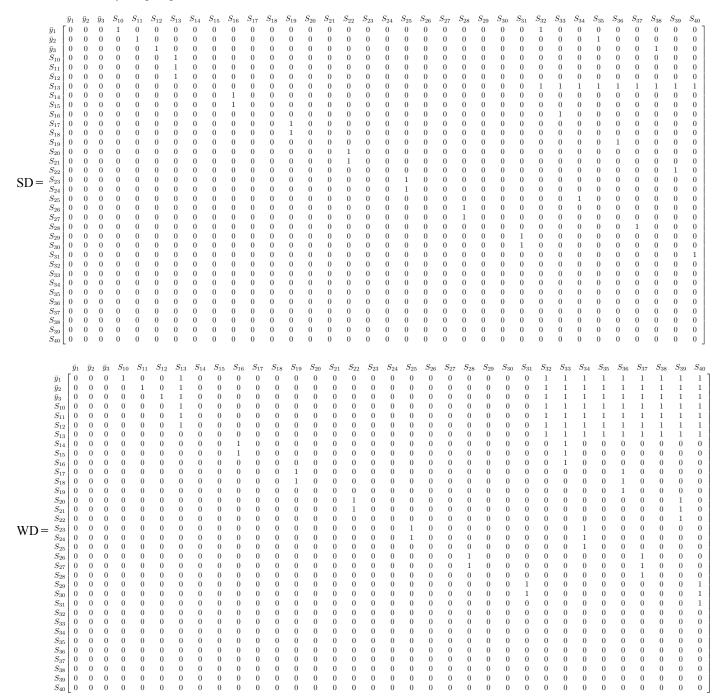


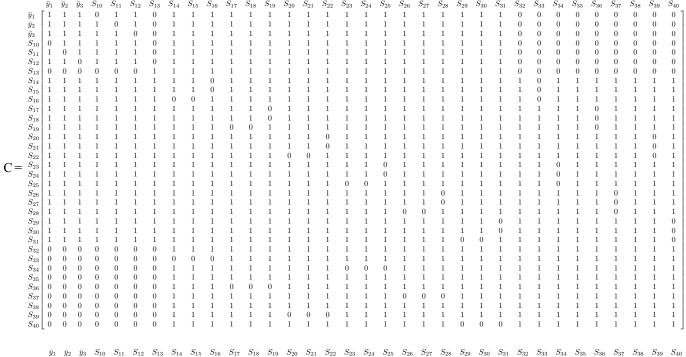
Проверка условия приводимости программы к ППФ (5 из 455):

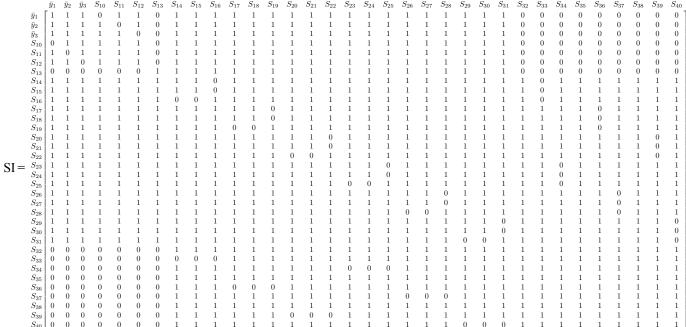
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\begin{array}{l} 1)\bar{y}_1\to\bar{y}_3\\ 2)\bar{y}_2\\ E(\bar{y}_1)=\{S_{10},S_{13},S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_3)=\{S_9,S_{12},S_{13},S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ N_1(\bar{y}_1,\bar{y}_3)=\{S_{13},S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ N_2(\bar{y}_1,\bar{y}_3)=\{S_{10},S_9,S_{12}\}\\ E(\bar{y}_2)=\{S_{11},S_{13},S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ \bar{y}_2\in N_2(\bar{y}_1,\bar{y}_3)-\text{не выполняется}\\ N_1(\bar{y}_1,\bar{y}_3)\subseteq E(\bar{y}_2)-\text{выполняется}\\ \text{не выполняется}\\ 1)\bar{y}_1\to S_9\\ 2)\bar{y}_3\\ E(\bar{y}_1)=\{S_{10},S_{13},S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(S_9)=\{S_{12},S_{13},S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ N_1(\bar{y}_1,S_9)=\{S_{13},S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ \end{array}
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 $N_2(\bar{y}_1, S_9) = \{S_{10}, S_{12}\}$

```
E(\bar{y}_3) = \{S_9, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_3 \in N_2(ar{y}_1, S_9) — не выполняется
N_1(\bar{y}_1, S_9) \subseteq E(\bar{\bar{y}}_3) — выполняется
не выполняется
1)\bar{y}_1 \nrightarrow S_{11}
2)S_{10}
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{11}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_{11}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_{11}) = \{S_{10}\}\
E(S_{10}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_{10} \in N_2(\bar{y}_1, S_{11}) — выполняется
N_1(ar{y}_1,S_{11})\subseteq E(S_{10}) — выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{12}
2)S_{10}
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{12}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_{12}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_{12}) = \{S_{10}\}\
E(S_{10}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_{10} \in N_2(\bar{y}_1, S_{12}) — выполняется
N_1(\bar{y}_1, S_{12}) \subseteq E(S_{10}) – выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{14}
2)S_{10}
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{14}) = \{S_{16}, S_{33}\}
N_1(\bar{y}_1, S_{14}) = \{S_{33}\}\
N_2(\bar{y}_1, S_{14}) = \{S_{10}, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{16}\}
E(S_{10}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_{10} \in N_2(\bar{y}_1, S_{14}) — выполняется
N_1(\bar{y}_1, S_{14}) \subseteq E(S_{10}) — выполняется
выполняется
На текущей итерации был выделен последовательный групповой оператор \bar{y}_3 = \{\bar{\bar{y}}_3, S_9\}
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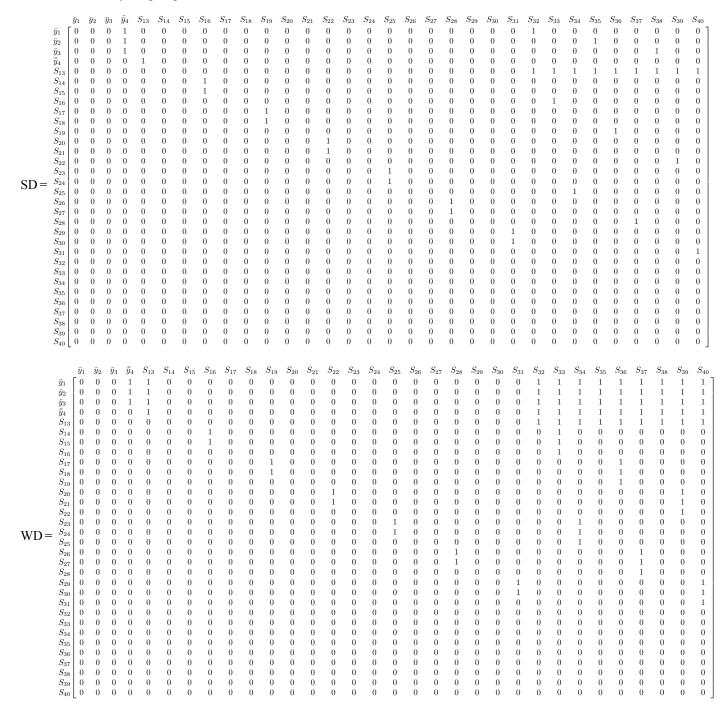
Проверка условия приводимости программы к ППФ (5 из 433):

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Проверка условия приводимости программы к титу (5 из та 1) \bar{y}_1 	o \bar{y}_3 2) \bar{y}_2 E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} E(\bar{y}_3) = \{S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} N_1(\bar{y}_1, \bar{y}_3) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} N_2(\bar{y}_1, \bar{y}_3) = \{S_{10}, S_{12}\} E(\bar{y}_2) = \{S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \bar{y}_2 \in N_2(\bar{y}_1, \bar{y}_3) — не выполняется N_1(\bar{y}_1, \bar{y}_3) \subseteq E(\bar{y}_2) — выполняется не выполняется
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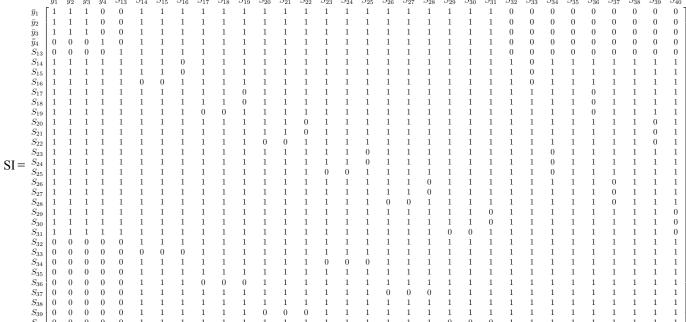
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\begin{array}{l} 1)\bar{y}_1 \nrightarrow S_{11} \\ 2)S_{10} \\ E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(S_{11}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ N_1(\bar{y}_1, S_{11}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ N_2(\bar{y}_1, S_{11}) = \{S_{10}\} \end{array}
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```
E(S_{10}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_{10} \in N_2(\bar{y}_1, S_{11}) — выполняется
N_1(\bar{y}_1, S_{11}) \subseteq E(S_{10}) — выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{12}
2)S_{10}
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{12}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, S_{12}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_2(\bar{y}_1, S_{12}) = \{S_{10}\}\
E(S_{10}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_{10} \in N_2(\bar{y}_1, S_{12}) — выполняется
N_1(\bar{y}_1, S_{12}) \subseteq E(S_{10}) — выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{14}
2)S_{10}
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{14}) = \{S_{16}, S_{33}\}\
N_1(\bar{y}_1, S_{14}) = \{S_{33}\}
N_2(\bar{y}_1, S_{14}) = \{S_{10}, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{16}\}
E(S_{10}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_{10} \in N_2(\bar{y}_1, S_{14}) — выполняется
N_1(\bar{y}_1, S_{14}) \subseteq E(S_{10}) — выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{15}
2)S_{10}
E(\bar{y}_1) = \{S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{15}) = \{S_{16}, S_{33}\}
N_1(\bar{y}_1, S_{15}) = \{S_{33}\}\
N_2(\bar{y}_1, S_{15}) = \{S_{10}, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{16}\}
E(S_{10}) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
S_{10} \in N_2(\bar{y}_1, S_{15}) — выполняется
N_1(\bar{y}_1, S_{15}) \subseteq E(S_{10}) — выполняется
выполняется
```

На текущей итерации был выделен паралллельный групповой оператор $\bar{y}_4 = \{S_{10}, S_{11}, S_{12}\}$



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S_{19}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S_{22}
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\begin{array}{c} \bar{y}_1 \\ \bar{y}_2 \\ \bar{y}_3 \\ \bar{y}_4 \\ S_{13} \\ S_{14} \\ S_{15} \\ S_{16} \end{array}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
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    S_{17} \\ S_{18} \\ S_{19} \\ S_{20} \\ S_{21} \\ S_{22} \\ S_{23} \\ S_{24} \\ S_{25} \\ S_{26} \\ S_{27} \\ S_{28} \\ S_{30} \\ S_{31} \\ S_{32} \\ S_{33} \\ S_{34} \\ S_{35} \\ S_{36} \\ S_{37} \\ S_{38} \\ S_{39} \\ S_{40} \\ S
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                                                                                                                                                                                                                                                                                                       \bar{\bar{y}}_4
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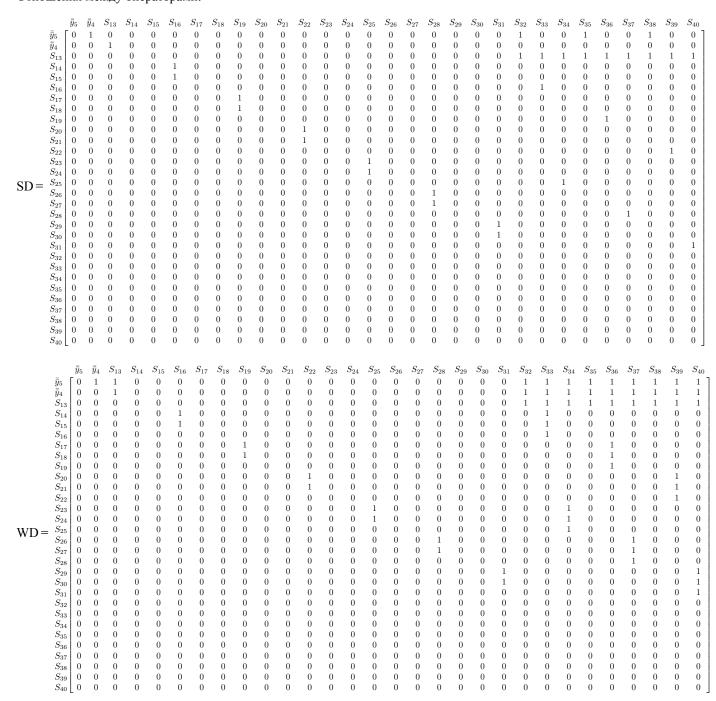


Проверка условия приводимости программы к ППФ (5 из 391):

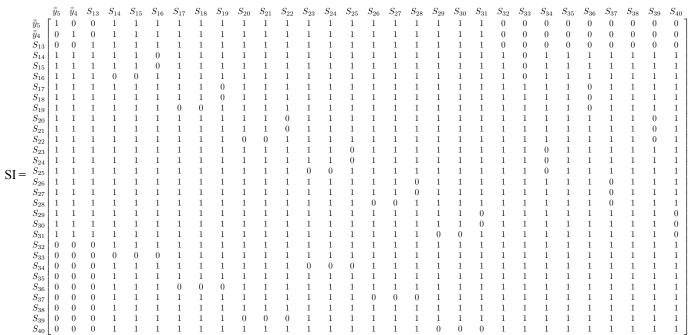
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1)\bar{y}_1 \nrightarrow \bar{y}_3
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_3) = \{\bar{y}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(\bar{y}_1, \bar{y}_3) = {\bar{y}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}}
N_2(\bar{y}_1, \bar{y}_3) = \varnothing
E(\bar{y}_2) = {\bar{y}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}}
ar{y}_2 \in N_2(ar{y}_1, ar{y}_3) — не выполняется
N_1(\bar{y}_1,\bar{y}_3)\subseteq E(\bar{y}_2) – выполняется
не выполняется
1)\bar{y}_1 \nrightarrow S_{14}
2)\bar{\bar{y}}_4
E(\bar{y}_1) = {\bar{y}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}}
E(S_{14}) = \{S_{16}, S_{33}\}
N_1(\bar{y}_1, S_{14}) = \{S_{33}\}
N_2(\bar{y}_1, S_{14}) = {\bar{y}_4, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{16}}
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E(\bar{y}_4) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_4 \in N_2(ar{y}_1, S_{14}) — выполняется
N_1(\bar{y}_1,S_{14})\subseteq E(\bar{\bar{y}}_4) – выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{15}
2)\bar{y}_4
E(\bar{y}_1) = \{\bar{y}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{15}) = \{S_{16}, S_{33}\}
N_1(\bar{y}_1, S_{15}) = \{S_{33}\}\
N_2(\bar{y}_1, S_{15}) = \{\bar{\bar{y}}_4, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{16}\}
E(\bar{y}_4) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_4 \in N_2(ar{y}_1, S_{15}) — выполняется
N_1(\bar{y}_1, S_{15}) \subseteq E(\bar{\bar{y}}_4) – выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{16}
2)\bar{\bar{y}}_4
E(\bar{y}_1) = {\bar{y}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}}
E(S_{16}) = \{S_{33}\}
N_1(\bar{y}_1, S_{16}) = \{S_{33}\}
N_2(\bar{y}_1, S_{16}) = \{\bar{\bar{y}}_4, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_4) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
\bar{y}_4 \in N_2(\bar{y}_1, S_{16}) — выполняется
N_1(\bar{y}_1, S_{16}) \subseteq E(\bar{y}_4) — выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{17}
2)\bar{\bar{y}}_4
E(\bar{y}_1) = {\bar{y}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}}
E(S_{17}) = \{S_{19}, S_{36}\}\
N_1(\bar{y}_1, S_{17}) = \{S_{36}\}\
N_2(\bar{y}_1, S_{17}) = \{\bar{\bar{y}}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}\}
E(\bar{y}_4) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_4 \in N_2(ar{y}_1,S_{17}) — выполняется
N_1(\bar{y}_1, S_{17}) \subseteq E(\bar{y}_4) — выполняется
выполняется
На текущей итерации был выделен паралллельный групповой оператор \bar{\bar{y}}_5 = \{\bar{y}_1, \bar{y}_2, \bar{y}_3\}
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24



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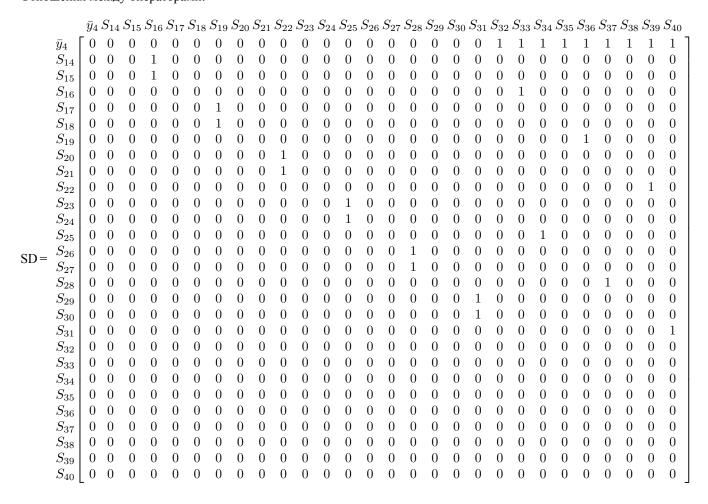


Проверка условия приводимости программы к ППФ (5 из 354):

```
1)\bar{y}_5 \nrightarrow S_{14}
2)\bar{y}_4
E(\bar{\bar{y}}_5) = \{\bar{\bar{y}}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{14}) = \{S_{16}, S_{33}\}
N_1(\bar{\bar{y}}_5, S_{14}) = \{S_{33}\}
N_2(\bar{y}_5, S_{14}) = {\bar{y}_4, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{16}}
E(\bar{y}_4) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_4 \in N_2(ar{ar{y}}_5, S_{14}) — выполняется
N_1(\bar{y}_5,S_{14})\subseteq E(\bar{y}_4) — выполняется
выполняется
1)\bar{\bar{y}}_5 \nrightarrow S_{15}
2)\bar{\bar{y}}_4
E(\bar{y}_5) = {\bar{y}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}}
E(S_{15}) = \{S_{16}, S_{33}\}
N_1(\bar{y}_5, S_{15}) = \{S_{33}\}
N_2(\bar{y}_5, S_{15}) = {\bar{y}_4, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{16}}
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E(\bar{y}_4) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_4 \in N_2(ar{ar{y}}_5, S_{15}) — выполняется
N_1(\bar{y}_5, S_{15}) \subseteq E(\bar{y}_4) – выполняется
выполняется
1)\bar{y}_5 \nrightarrow S_{16}
2)\bar{y}_4
E(\bar{y}_5) = \{\bar{y}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{16}) = \{S_{33}\}
N_1(\bar{y}_5, S_{16}) = \{S_{33}\}\
N_2(\bar{y}_5, S_{16}) = {\bar{y}_4, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}}
E(\bar{y}_4) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_4 \in N_2(ar{ar{y}}_5, S_{16}) — выполняется
N_1(\bar{y}_5, S_{16}) \subseteq E(\bar{y}_4) — выполняется
выполняется
1)\bar{\bar{y}}_5 \nrightarrow S_{17}
2)\bar{\bar{y}}_4
E(\bar{y}_5) = {\bar{y}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}}
E(S_{17}) = \{S_{19}, S_{36}\}\
N_1(\bar{\bar{y}}_5, S_{17}) = \{S_{36}\}
N_2(\bar{y}_5, S_{17}) = {\bar{y}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}}
E(\bar{y}_4) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_4 \in N_2(ar{ar{y}}_5, S_{17}) — выполняется
N_1(\bar{y}_5, S_{17}) \subseteq E(\bar{y}_4) — выполняется
выполняется
1)\bar{\bar{y}}_5 \nrightarrow S_{18}
2)\bar{\bar{y}}_4
E(\bar{y}_5) = {\bar{y}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}}
E(S_{18}) = \{S_{19}, S_{36}\}\
N_1(\bar{\bar{y}}_5, S_{18}) = \{S_{36}\}
N_2(\bar{y}_5, S_{18}) = {\bar{y}_4, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}}
E(\bar{\bar{y}}_4) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_4 \in N_2(ar{ar{y}}_5, S_{18}) — выполняется
N_1(\bar{\bar{y}}_5, S_{18}) \subseteq E(\bar{\bar{y}}_4) — выполняется
выполняется
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На текущей итерации был выделен последовательный групповой оператор $\bar{y}_4 = \{\bar{y}_5, \bar{y}_4, S_{13}\}$



 $ar{y}_4$ S_{14} S_{15} S_{16} S_{17} S_{18} S_{19} S_{20} S_{21} S_{22} S_{23} S_{24} S_{25} S_{26} S_{27} S_{28} S_{29} S_{30} S_{31} S_{32} S_{33} S_{34} S_{35} S_{36} S_{37} S_{38} S_{39} S_{40} \bar{y}_4 S_{14} S_{15} S_{16} S_{17} S_{18} S_{19} S_{20} S_{21} S_{22} S_{23} S_{24} S_{25} S_{26} WD = S_{27} S_{28} S_{29} S_{30} S_{31} S_{32} S_{33} O S_{34} S_{35} S_{36} S_{37} S_{38} S_{39} $S_{40} \, [\, 0 \,]$

 $\bar{y}_4\,S_{14}\,S_{15}\,S_{16}\,S_{17}\,S_{18}\,S_{19}\,S_{20}\,S_{21}\,S_{22}\,S_{23}\,S_{24}\,S_{25}\,S_{26}\,S_{27}\,S_{28}\,S_{29}\,S_{30}\,S_{31}\,S_{32}\,S_{33}\,S_{34}\,S_{35}\,S_{36}\,S_{37}\,S_{38}\,S_{39}\,S_{40}$ S_{14} S_{15} S_{16} S_{17} S_{18} S_{19} S_{20} S_{21} O S_{22} O S_{23} S_{24} S_{25} S_{26} S_{27} S_{28} S_{29} S_{30} S_{31} S_{32} S_{33} S_{34} S_{35} S_{36} S_{37} S_{38} S_{39} S_{40}

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\bar{y}_4 \, S_{14} \, S_{15} \, S_{16} \, S_{17} \, S_{18} \, S_{19} \, S_{20} \, S_{21} \, S_{22} \, S_{23} \, S_{24} \, S_{25} \, S_{26} \, S_{27} \, S_{28} \, S_{29} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40} \, S_{20} \, S
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Проверка условия приводимости программы к ППФ (5 из 318):
1)\bar{y}_4 \nrightarrow S_{15}
2)S_{14}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{15}) = \{S_{16}, S_{33}\}
N_1(\bar{y}_4, S_{15}) = \{S_{33}\}
N_2(\bar{y}_4, S_{15}) = \{S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{16}\}
E(S_{14}) = \{S_{16}, S_{33}\}
S_{14} \in N_2(\bar{y}_4, S_{15}) — не выполняется
N_1(\bar{y}_4, S_{15}) \subseteq E(S_{14}) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{16}
2)S_{15}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{16}) = \{S_{33}\}
N_1(\bar{y}_4, S_{16}) = \{S_{33}\}\
N_2(\bar{y}_4, S_{16}) = \{S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{15}) = \{S_{16}, S_{33}\}
S_{15} \in N_2(\bar{y}_4, S_{16}) — не выполняется
N_1(\bar{y}_4, S_{16}) \subseteq E(S_{15}) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{17}
2)S_{16}
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 $E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}$

 $S_{16} \in N_2(\bar{y}_4, S_{17})$ — не выполняется

 $N_2(\bar{y}_4, S_{17}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}\}$

 $E(S_{17}) = \{S_{19}, S_{36}\}$ $N_1(\bar{y}_4, S_{17}) = \{S_{36}\}\$

 $E(S_{16}) = \{S_{33}\}$

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N_1(\bar{y}_4, S_{17}) \subseteq E(S_{16}) — не выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{18}
2)S_{17}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{18}) = \{S_{19}, S_{36}\}
N_1(\bar{y}_4, S_{18}) = \{S_{36}\}
N_2(\bar{y}_4, S_{18}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}\}
E(S_{17}) = \{S_{19}, S_{36}\}
S_{17} \in N_2(ar{y}_4, S_{18}) — не выполняется
N_1(\bar{y}_4, S_{18}) \subseteq E(S_{17}) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{19}
2)S_{18}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{19}) = \{S_{36}\}
N_1(\bar{y}_4, S_{19}) = \{S_{36}\}
N_2(\bar{y}_4, S_{19}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{18}) = \{S_{19}, S_{36}\}
S_{18} \in N_2(ar{y}_4, S_{19}) — не выполняется
N_1(\bar{y}_4, S_{19}) \subseteq E(S_{18}) — выполняется
не выполняется
На текущей итерации был выделен паралллельный групповой оператор \bar{\bar{y}}_6 = \{S_{14}, S_{15}\}
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Отношения между операторами:

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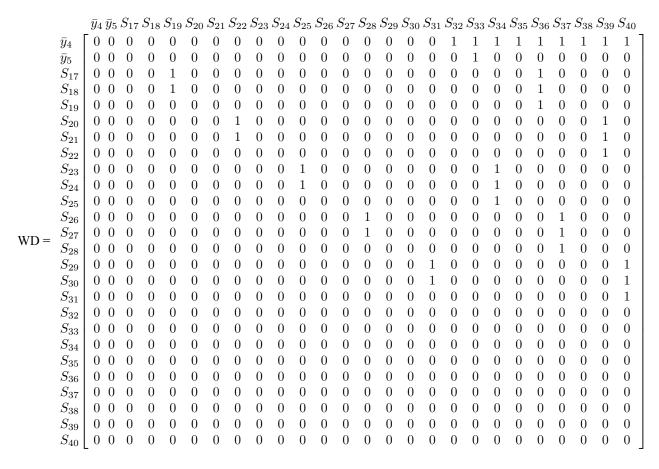
 $ar{y}_4 \, ar{y}_6 \, S_{16} \, S_{17} \, S_{18} \, S_{19} \, S_{20} \, S_{21} \, S_{22} \, S_{23} \, S_{24} \, S_{25} \, S_{26} \, S_{27} \, S_{28} \, S_{29} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40} \, S_{40}$ $\bar{\bar{y}}_6$ 0 0 S_{16} S_{17} 0 0 S_{18} 0 0 S_{19} 0 0 S_{20} 0 0 S_{21} 0 0 S_{22} $0 \quad 0$ O S_{23} $0 \quad 0$ S_{24} $0 \quad 0$ S_{25} $0 \quad 0$ S_{26} 0 0 WD = S_{27} S_{28} 0 0 S_{29} 0 0 0 0 S_{30} S_{31} 0 0 S_{32} 0 0 S_{33} 0 0 S_{34} 0 0 S_{35} 0 0 S_{36} 0 0 S_{37} 0 0 S_{38} 0 0 S_{39} $0 \quad 0$ $0 \ 0$

 $\bar{y}_4\,\bar{\bar{y}}_6\,S_{16}\,S_{17}\,S_{18}\,S_{19}\,S_{20}\,S_{21}\,S_{22}\,S_{23}\,S_{24}\,S_{25}\,S_{26}\,S_{27}\,S_{28}\,S_{29}\,S_{30}\,S_{31}\,S_{32}\,S_{33}\,S_{34}\,S_{35}\,S_{36}\,S_{37}\,S_{38}\,S_{39}\,S_{40}\,S_{1$ \bar{y}_4 \bar{y}_6 S_{16} S_{17} S_{18} S_{19} S_{20} S_{21} S_{22} S_{23} S_{24} S_{25} S_{26} C = S_{27} S_{28} 1 1 S_{29} 1 1 S_{30} S_{31} S_{32} S_{33} 0 0 S_{34} 0 1 S_{35} 0 1 S_{36} 0 1 S_{37} 0 1 S_{38} 0 1 S_{39} $S_{40} \mid 0 \mid 1$ $\bar{y}_4 \, \bar{\bar{y}}_6 \, S_{16} \, S_{17} \, S_{18} \, S_{19} \, S_{20} \, S_{21} \, S_{22} \, S_{23} \, S_{24} \, S_{25} \, S_{26} \, S_{27} \, S_{28} \, S_{29} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40} \, S_{40}$ 1 1 \bar{y}_4 \bar{y}_6 S_{16} S_{17} S_{18} S_{19} S_{20} S_{21} S_{22} N S_{23} S_{24} S_{25} 1 1 S_{26} SI = S_{27} S_{28} S_{29} S_{30} S_{31} S_{32} S_{33} 0 0 S_{34} S_{35} S_{36} S_{37} S_{38} 0 1 S_{39} $S_{40} \, [\, 0 \, 1 \,]$

Проверка условия приводимости программы к ППФ (5 из 294):

```
1)\bar{y}_4 \nrightarrow S_{16}
2)\bar{\bar{y}}_6
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{16}) = \{S_{33}\}
N_1(\bar{y}_4, S_{16}) = \{S_{33}\}
N_2(\bar{y}_4, S_{16}) = \{S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_6) = \{S_{16}, S_{33}\}
ar{ar{y}}_{6} \in N_{2}(ar{y}_{4}, S_{16}) — не выполняется
N_1(\bar{y}_4, S_{16}) \subseteq E(\bar{\bar{y}}_6) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{17}
2)S_{16}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{17}) = \{S_{19}, S_{36}\}\
N_1(\bar{y}_4, S_{17}) = \{S_{36}\}\
N_2(\bar{y}_4, S_{17}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}\}
E(S_{16}) = \{S_{33}\}
S_{16} \in N_2(ar{y}_4, S_{17}) — не выполняется
N_1(\bar{y}_4, S_{17}) \subseteq E(S_{16}) — не выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{18}
2)S_{17}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{18}) = \{S_{19}, S_{36}\}\
N_1(\bar{y}_4, S_{18}) = \{S_{36}\}\
N_2(\bar{y}_4, S_{18}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}\}
E(S_{17}) = \{S_{19}, S_{36}\}
S_{17} \in N_2(ar{y}_4, S_{18}) — не выполняется
N_1(\bar{y}_4, S_{18}) \subseteq E(S_{17}) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{19}
2)S_{18}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{19}) = \{S_{36}\}
N_1(\bar{y}_4, S_{19}) = \{S_{36}\}\
N_2(\bar{y}_4, S_{19}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{18}) = \{S_{19}, S_{36}\}
S_{18} \in N_2(ar{y}_4, S_{19}) — не выполняется
N_1(\bar{y}_4, S_{19}) \subseteq E(S_{18}) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{20}
2)S_{19}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{20}) = \{S_{22}, S_{39}\}\
N_1(\bar{y}_4, S_{20}) = \{S_{39}\}\
N_2(\bar{y}_4, S_{20}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}, S_{22}\}
E(S_{19}) = \{S_{36}\}
S_{19} \in N_2(ar{y}_4, S_{20}) — не выполняется
N_1(\bar{y}_4, S_{20}) \subseteq E(S_{19}) — не выполняется
не выполняется
На текущей итерации был выделен последовательный групповой оператор \bar{y}_5 = \{\bar{y}_6, S_{16}\}
```

		\bar{y}_4	\bar{y}_5 ,	S_{17}	S_{18}	S_{19}	S_{20}	S_{21}	S_{22}	S_{23}	S_{24}	S_{25}	S_{26}	S_{27}	S_{28}	S_{29}	S_{30}	S_{31}	S_{32}	S_{33}	S_{34}	S_{35}	S_{36}	S_{37}	S_{38}	S_{39}	S_{40}	
SD =	\bar{y}_4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
	\bar{y}_5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	l
	S_{17}	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	l
	S_{18}	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	l
	S_{19}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	l
	S_{20}	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	l
	S_{21}	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	l
	S_{22}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	l
	S_{23}	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	l
	S_{24}	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	l
	S_{25}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	l
	S_{26}	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
	S_{27}	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	l
	S_{28}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	l
	S_{29}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	l
	S_{30}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	l
	S_{31}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	l
	S_{32}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	l
	S_{33}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	l
	S_{34}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	l
	S_{35}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	l
	S_{36}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	l
	S_{37}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	l
	S_{38}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	S_{39}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	S_{40}	- 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 _	



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\bar{y}_4 \, \bar{y}_5 \, S_{17} \, S_{18} \, S_{19} \, S_{20} \, S_{21} \, S_{22} \, S_{23} \, S_{24} \, S_{25} \, S_{26} \, S_{27} \, S_{28} \, S_{29} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40} \, S
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 $\bar{y}_4\,\bar{y}_5\,S_{17}\,S_{18}\,S_{19}\,S_{20}\,S_{21}\,S_{22}\,S_{23}\,S_{24}\,S_{25}\,S_{26}\,S_{27}\,S_{28}\,S_{29}\,S_{30}\,S_{31}\,S_{32}\,S_{33}\,S_{34}\,S_{35}\,S_{36}\,S_{37}\,S_{38}\,S_{39}\,S_{40}$ \bar{y}_4 \bar{y}_5 S_{17} S_{18} S_{19} S_{20} S_{21} S_{22} S_{23} S_{24} S_{25} S_{26} S_{27} 1 1 SI = S_{28} S_{29} S_{30} S_{31} S_{32} 0 0 S_{33} S_{34} S_{35} 0 1 S_{36} 0 1 S_{37} 0 1 S_{38} S_{39} $S_{40} \mid 0 \mid 1$

Проверка условия приводимости программы к ППФ (5 из 270):

```
\begin{array}{l} 1)\bar{y}_4 \nrightarrow S_{17} \\ 2)\bar{y}_5 \\ E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(S_{17}) = \{S_{19}, S_{36}\} \end{array}
```

```
N_1(\bar{y}_4, S_{17}) = \{S_{36}\}\
N_2(\bar{y}_4, S_{17}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}\}
E(\bar{y}_5) = \{S_{33}\}
ar{y}_{5} \in N_{2}(ar{y}_{4}, S_{17}) — не выполняется
N_1(\bar{y}_4, S_{17}) \subseteq E(\bar{y}_5) — не выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{18}
2)S_{17}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{18}) = \{S_{19}, S_{36}\}
N_1(\bar{y}_4, S_{18}) = \{S_{36}\}\
N_2(\bar{y}_4, S_{18}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}\}
E(S_{17}) = \{S_{19}, S_{36}\}
S_{17} \in N_2(ar{y}_4, S_{18}) — не выполняется
N_1(\bar{y}_4, S_{18}) \subseteq E(S_{17}) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{19}
2)S_{18}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{19}) = \{S_{36}\}
N_1(\bar{y}_4, S_{19}) = \{S_{36}\}
N_2(\bar{y}_4, S_{19}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{18}) = \{S_{19}, S_{36}\}
S_{18} \in N_2(\bar{y}_4, S_{19}) — не выполняется
N_1(\bar{y}_4, S_{19}) \subseteq E(S_{18}) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{20}
2)S_{19}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{20}) = \{S_{22}, S_{39}\}
N_1(\bar{y}_4, S_{20}) = \{S_{39}\}
N_2(\bar{y}_4, S_{20}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}, S_{22}\}
E(S_{19}) = \{S_{36}\}
S_{19} \in N_2(ar{y}_4, S_{20}) — не выполняется
N_1(\bar{y}_4, S_{20}) \subseteq E(S_{19}) — не выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{21}
2)S_{20}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{21}) = \{S_{22}, S_{39}\}\
N_1(\bar{y}_4, S_{21}) = \{S_{39}\}
N_2(\bar{y}_4, S_{21}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}, S_{22}\}
E(S_{20}) = \{S_{22}, S_{39}\}
S_{20} \in N_2(ar{y}_4, S_{21}) — не выполняется
N_1(\bar{y}_4, S_{21}) \subseteq E(S_{20}) — выполняется
не выполняется
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На текущей итерации был выделен паралллельный групповой оператор $\bar{y}_7 = \{S_{17}, S_{18}\}$

Отношения между операторами.																										
		\bar{y}_4	\bar{y}_5	$ar{ar{y}}_7$.	S_{19}	S_{20}	S_{21}	S_{22}	S_{23}	S_{24}	S_{25}	S_{26}	S_{27}	S_{28}	S_{29}	S_{30}	S_{31}	S_{32}	S_{33}	S_{34} ,	S_{35}	S_{36}	S_{37}	S_{38}	S_{39} ,	S_{40}
	\bar{y}_4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	\bar{y}_5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	$ar{ar{y}}_7$	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{19}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	S_{20}	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{21}	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{22}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	S_{23}	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{24}	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{25}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
SD =	S_{26}	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	S_{27}	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	S_{28}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	S_{29}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	S_{30}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	S_{31}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	S_{32}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{33}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{34}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{35}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{36}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{37}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{38}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{39}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{40}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		\bar{y}	$_4ar{y}_{5}$	5 $ar{ar{y}}_7$	S_{19}	S_{20}	S_{21}	S_{22}	S_{23}	S_{24}	$_{1}S_{25}$	S_{26}	S_{27}	S_{28}	S_{29}	S_{30}	S_{31}	S_{32}	S_{33}	S_{34}	S_{35}	S_{36}	S_{37}	S_{38}	S_{39}	S_{40}
	\bar{y}_4	[(0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1]
	\bar{u}_{5}	10	0 (0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0

		\bar{y}_4	\bar{y}_5	$ar{ar{y}}_7$,	S_{19}	S_{20}	S_{21}	S_{22}	S_{23}	S_{24}	S_{25}	S_{26}	S_{27}	S_{28}	S_{29}	S_{30}	S_{31}	S_{32}	S_{33}	S_{34}	S_{35}	S_{36}	S_{37}	S_{38}	S_{39}	S_{40}
	\bar{y}_4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	\bar{y}_5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	$\bar{ar{y}}_7$	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	S_{19}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	S_{20}	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	S_{21}	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	S_{22}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	S_{23}	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	S_{24}	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	S_{25}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	S_{26}	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
	S_{27}	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0
WD =	S_{28}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	S_{29}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
	S_{30}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
	S_{31}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	S_{32}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{33}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{34}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{35}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{36}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{37}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{38}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{39}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	S_{40}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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\bar{y}_4\,\bar{y}_5\,\bar{\bar{y}}_7\,S_{19}\,S_{20}\,S_{21}\,S_{22}\,S_{23}\,S_{24}\,S_{25}\,S_{26}\,S_{27}\,S_{28}\,S_{29}\,S_{30}\,S_{31}\,S_{32}\,S_{33}\,S_{34}\,S_{35}\,S_{36}\,S_{37}\,S_{38}\,S_{39}\,S_{40}
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         S_{25}
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                                                                                                                                                                         1
         S_{26}
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                                                                                                                                                      0
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                                                                                                                                                                         1
         S_{27}
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                            1
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                                                                                                                                                                         1
SI = S_{28}
                                                                                                                                                                         1
         S_{29}
                                                                                                                                                                         0
          S_{30}
                                                                                                                                                                         0
                                                                                                                                                                         0
          S_{31}
                                                                                                  0
                                                                                                               1
                                                                        1
                                                                               1
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          S_{32}
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         S_{33}
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         S_{34}
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          S_{35}
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                   0 1
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                                                                                                                                                            1
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          S_{36}
                                                                                     0
                                                                                                                                                                         1
         S_{37}
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         S_{38}
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                                                                                                                            1
         S_{39}
                   0 1 1
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                                              0
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```

```
1
Проверка условия приводимости программы к ППФ (5 из 248):
```

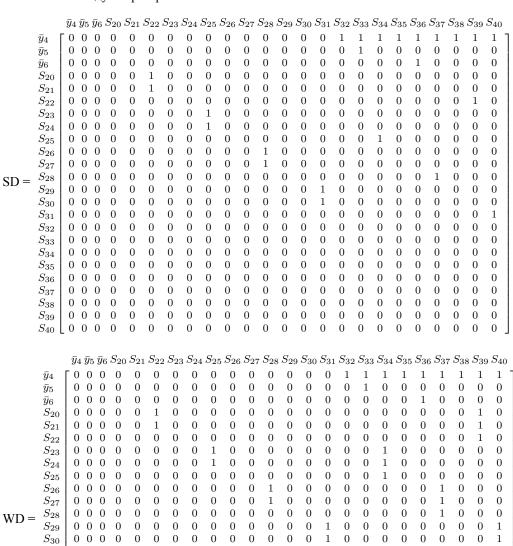
```
1)\bar{y}_4 \nrightarrow \bar{y}_7
2)\bar{y}_5
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_7) = \{S_{19}, S_{36}\}
N_1(\bar{y}_4, \bar{\bar{y}}_7) = \{S_{36}\}
N_2(\bar{y}_4, \bar{y}_7) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}\}
```

0 1 1

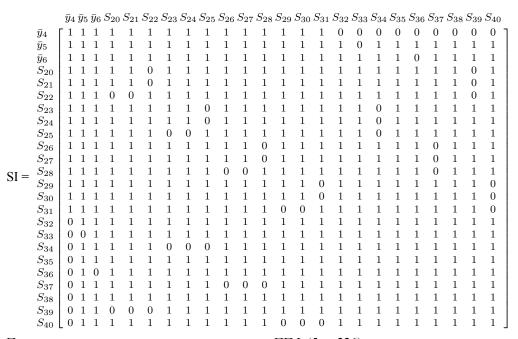

```
E(\bar{y}_5) = \{S_{33}\}
\bar{y}_5 \in N_2(\bar{y}_4, \bar{\bar{y}}_7) — не выполняется
N_1(\bar{y}_4, \bar{y}_7) \subseteq E(\bar{y}_5) — не выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{19}
2)\bar{y}_7
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{19}) = \{S_{36}\}\
N_1(\bar{y}_4, S_{19}) = \{S_{36}\}\
N_2(\bar{y}_4, S_{19}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_7) = \{S_{19}, S_{36}\}
ar{ar{y}}_7\in N_2(ar{y}_4,S_{19}) — не выполняется N_1(ar{y}_4,S_{19})\subseteq E(ar{ar{y}}_7) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{20}
2)S_{19}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{20}) = \{S_{22}, S_{39}\}\
N_1(\bar{y}_4, S_{20}) = \{S_{39}\}
N_2(\bar{y}_4, S_{20}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}, S_{22}\}
E(S_{19}) = \{S_{36}\}
S_{19} \in N_2(\bar{y}_4, S_{20}) — не выполняется
N_1(\bar{y}_4, S_{20}) \subseteq E(S_{19}) — не выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{21}
2)S_{20}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{21}) = \{S_{22}, S_{39}\}\
N_1(\bar{y}_4, S_{21}) = \{S_{39}\}
N_2(\bar{y}_4, S_{21}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}, S_{22}\}
E(S_{20}) = \{S_{22}, S_{39}\}
S_{20} \in N_2(ar{y}_4, S_{21}) — не выполняется
N_1(\bar{y}_4, S_{21}) \subseteq E(S_{20}) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{22}
2)S_{21}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{22}) = \{S_{39}\}
N_1(\bar{y}_4, S_{22}) = \{S_{39}\}
N_2(\bar{y}_4, S_{22}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}\}
E(S_{21}) = \{S_{22}, S_{39}\}
S_{21} \in N_2(\bar{y}_4, S_{22}) — не выполняется
N_1(\bar{y}_4, S_{22}) \subseteq E(S_{21}) — выполняется
не выполняется
На текущей итерации был выделен последовательный групповой оператор \bar{y}_6 = \{\bar{y}_7, S_{19}\}
```

Отношения между операторами:

 $S_{40} \ [\ 0 \ 0 \ 0 \]$



```
\bar{y}_4 \ \bar{y}_5 \ \bar{y}_6 \ S_{20} \ S_{21} \ S_{22} \ S_{23} \ S_{24} \ S_{25} \ S_{26} \ S_{27} \ S_{28} \ S_{29} \ S_{30} \ S_{31} \ S_{32} \ S_{33} \ S_{34} \ S_{35} \ S_{36} \ S_{37} \ S_{38} \ S_{39} \ S_{40}
                                                                                          0
                                                                                                     0
                                                                                                                0
               1 1 1 1
                                1
                                    1
                                          1
                                                1
                                                     1
                                                           1
                                                               1
                                                                    1
                                                                          1
                                                                                1
                                                                                     1
                                                                                                0
                                                                                                          0
               1 1 1
                                                                                1
        \bar{y}_5
                                                                                                                0
               1 1 1 1
                                1
                                      1
                                           1
                                                1
                                                      1
                                                           1
                                                                1
                                                                           1
                                                                                1
                                                                                     1
                                                                                           1
                                                                                                          1
                                                                                                                                     1
        S_{20}
                                      0
                                                                                1
                                                                                                                                0
                                                                                                                                     1
       S_{21}
                                 1
                                                                                1
                                                                                                                                     1
        S_{22}
               1 1 1
                           0
                                0
                                      1
                                                1
                                                      1
                                                                                1
        S_{23}
       S_{24}
                                                      0
        S_{25}
        S_{26}
                                 1
        S_{27}
       S_{28}
                                                           0
                                                                0
C =
       S_{29}
                           1
                                 1
                                      1
                                                      1
                                                           1
                                                                                1
                                                                                     0
                                                                                                                                     0
                                                                           1
                                                                                     0
                           1
                                 1
                                      1
                                                      1
                                                                                1
       S_{32}
                           1
                                      1
                                                1
                                                      1
               0 1 1
                                 1
               0 0
                      1
                           1
                                 1
                                      1
                                           1
                                                1
                                                      1
                                                                                1
       S_{34}
                                                      0
               0 \ 1 \ 1
                           1
                                 1
                                      1
                                                                                1
        S_{35}
                                                      1
               0 1 1 1
                                1
                                      1
                                                1
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        S_{36}
               0 \ 1 \ 0
                           1
                                 1
                                      1
                                                                                1
        S_{37}
                0 \ 1 \ 1 \ 1
                                 1
                                      1
                                                1
                                                      1
       S_{38}
                                     1
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                                                                                           1
                0 1 1 1
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                                                           1
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                                                                                                                                     1
        S_{39}
                0 \ 1 \ 1
                           0
                                 0
                                      0
                                           1
                                                1
                                                      1
                                                           1
                                                                1
                                                                                1
                                                                                     1
                                                                                           1
       S_{40} \ [ \ 0 \ 1 \ 1 \ ]
                                                                                0
                                                                                     0
                                                                                           1
                          1
```



Проверка условия приводимости программы к ППФ (5 из 226):

```
Проверка условия приводимости программы к тих 1)\bar{y}_4 \nrightarrow \bar{y}_6 2)\bar{y}_5 E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} E(\bar{y}_6) = \{S_{36}\} N_1(\bar{y}_4, \bar{y}_6) = \{S_{36}\} N_2(\bar{y}_4, \bar{y}_6) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}\} E(\bar{y}_5) = \{S_{33}\} \bar{y}_5 \in N_2(\bar{y}_4, \bar{y}_6) - не выполняется N_1(\bar{y}_4, \bar{y}_6) \subseteq E(\bar{y}_5) - не выполняется не выполняется 1)\bar{y}_4 \nrightarrow S_{20} 2)\bar{y}_6 E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} E(S_{20}) = \{S_{22}, S_{39}\}
```

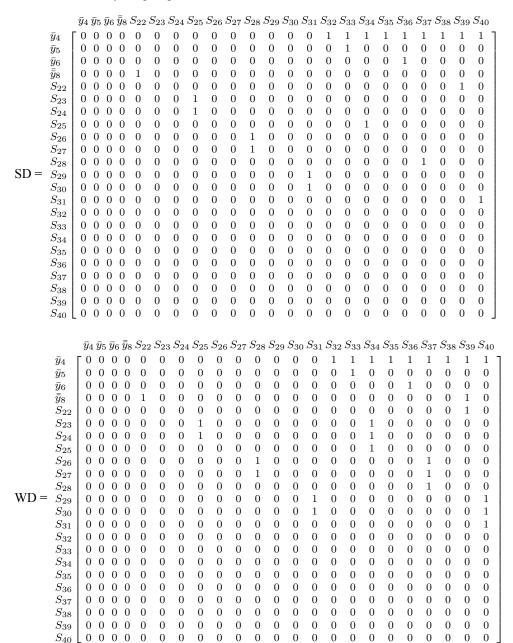
 $N_2(\bar{y}_4, S_{20}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}, S_{22}\}$

 $N_1(\bar{y}_4, S_{20}) = \{S_{39}\}\$

 $E(\bar{y}_6) = \{S_{36}\}$

```
\bar{y}_6 \in N_2(\bar{y}_4, S_{20}) — не выполняется
N_1(\bar{y}_4, S_{20}) \subseteq E(\bar{y}_6) — не выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{21}
2)S_{20}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{21}) = \{S_{22}, S_{39}\}
N_1(\bar{y}_4, S_{21}) = \{S_{39}\}
N_2(\bar{y}_4, S_{21}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}, S_{22}\}
E(S_{20}) = \{S_{22}, S_{39}\}
S_{20} \in N_2(ar{y}_4,S_{21}) — не выполняется N_1(ar{y}_4,S_{21}) \subseteq E(S_{20}) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{22}
2)S_{21}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{22}) = \{S_{39}\}
N_1(\bar{y}_4, S_{22}) = \{S_{39}\}
N_2(\bar{y}_4, S_{22}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}\}
E(S_{21}) = \{S_{22}, S_{39}\}
S_{21} \in N_2(\bar{y}_4, S_{22}) — не выполняется
N_1(ar{y}_4,S_{22})\subseteq E(S_{21}) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow S_{23}
2)S_{22}
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{23}) = \{S_{25}, S_{34}\}
N_1(\bar{y}_4, S_{23}) = \{S_{34}\}
N_2(\bar{y}_4, S_{23}) = \{S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{25}\}
E(S_{22}) = \{S_{39}\}
S_{22} \in N_2(ar{y}_4, S_{23}) — не выполняется
N_1(\bar{y}_4, S_{23}) \subseteq E(S_{22}) — не выполняется
не выполняется
```

На текущей итерации был выделен паралллельный групповой оператор $\bar{y}_8 = \{S_{20}, S_{21}\}$



```
\bar{y}_4 \ \bar{y}_5 \ \bar{y}_6 \ \bar{y}_8 \ S_{22} \ S_{23} \ S_{24} \ S_{25} \ S_{26} \ S_{27} \ S_{28} \ S_{29} \ S_{30} \ S_{31} \ S_{32} \ S_{33} \ S_{34} \ S_{35} \ S_{36} \ S_{37} \ S_{38} \ S_{39} \ S_{40}
               1 1 1 1 1 1
                                                                                     0
                                                                                                0
                                                                                                      0
                                          1
                                               1
                                                    1
                                                          1 1
                                                                    1
                                                                          1
                                                                               1
                                                                                           0
       \bar{y}_5
                                                                1
                                                                      1
               1 1 1 1
                                     1
                                          1
                                                1
                                                           1
                                                                1
                                                                     1
                                                                           1
                                                                                                                            1
                                     1
                                                                1
        \bar{\bar{y}}_8
       S_{22}
                                     1
                                                                1
                                                0
        S_{23}
               1 1 1
                                     1
                                          1
                                                           1
                                                                1
        S_{24}
       S_{25}
                                     0
        S_{26}
                                                                0
        S_{27}
                                     1
                                                                0
                                                           0
        S_{28}
                                     1
                                                                1
C = S_{29}
        S_{30}
                                     1
                                          1
                                                                1
                                                                      1
                       1
                           1
                                     1
                                          1
                                                1
                                                           1
                                                                1
                                                                      0
       S_{33}
                0 \ 0 \ 1 \ 1
                                1
                                     1
                                          1
                                                1
                                                                1
                                                                      1
                                     0
                                          0
                                                0
                0 1 1
                           1
                                1
                                                           1
                                                                1
                                                                      1
        S_{35}
                0\ 1\ 1\ 1
                                     1
                                          1
                                                1
                                                                1
       S_{36}
                0 \ 1 \ 0 \ 1
                                                                1
                                     1
                                          1
        S_{37}
                       1
                                     1
                                          1
                                                           0
                                                                0
       S_{38}
                0\ 1\ 1\ 1
                                     1
                0 \ 1 \ 1 \ 0 \ 0
                                                1
                                                          1
                                                                1
                                                                     1
                                                                           1
                                                                                1
                                                                                      1
                                                                                           1
        S_{39}
                                     1
                                          1
                                                     1
                                                           1
                                                                1
                                                                      0
                                                                           0
                                                                                0
                                                                                      1
```

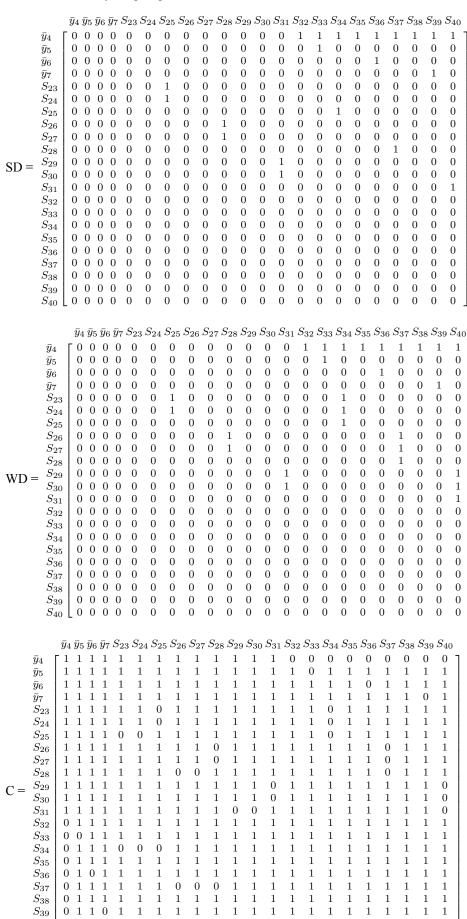
 $\bar{y}_4\,\bar{y}_5\,\bar{y}_6\,\bar{\bar{y}}_8\,S_{22}\,S_{23}\,S_{24}\,S_{25}\,S_{26}\,S_{27}\,S_{28}\,S_{29}\,S_{30}\,S_{31}\,S_{32}\,S_{33}\,S_{34}\,S_{35}\,S_{36}\,S_{37}\,S_{38}\,S_{39}\,S_{40}$ 1 1 1 1 1 1 \bar{y}_5 \bar{y}_6 $\bar{\bar{y}}_8$ 1 1 1 1 S_{22} S_{23} 1 1 1 1 1 1 1 1 S_{25} S_{26} S_{27} 1 1 1 1 S_{28} $SI = S_{29}$ S_{30} S_{31} 0 1 1 1 S_{32} S_{33} $0 \ 0 \ 1 \ 1$ S_{34} 0 1 1 1 S_{35} 0 1 1 1 S_{36} $0 \ 1 \ 0 \ 1$ S_{37} 0 1 1 1 0 1 1 0 $S_{40} \ [0 \ 1 \ 1 \ 1 \ 1$

Проверка условия приводимости программы к ППФ (5 из 206):

```
1)\bar{y}_4 \nrightarrow \bar{y}_6
2)\bar{y}_5
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_6) = \{S_{36}\}\
N_1(\bar{y}_4, \bar{y}_6) = \{S_{36}\}\
N_2(\bar{y}_4, \bar{y}_6) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_5) = \{S_{33}\}
ar{y}_5 \in N_2(ar{y}_4, ar{y}_6) — не выполняется
N_1(ar{y}_4,ar{y}_6)\subseteq E(ar{y}_5) — не выполняется
не выполняется
1)\bar{y}_4 \nrightarrow \bar{\bar{y}}_8
2)\bar{y}_6
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_8) = \{S_{22}, S_{39}\}
N_1(\bar{y}_4, \bar{\bar{y}}_8) = \{S_{39}\}\
N_2(\bar{y}_4, \bar{\bar{y}}_8) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}, S_{22}\}
E(\bar{y}_6) = \{S_{36}\}
\bar{y}_6 \in N_2(\bar{y}_4, \bar{\bar{y}}_8) — не выполняется
N_1(\bar{y}_4, \bar{y}_8) \subseteq E(\bar{y}_6) — не выполняется
```

$$\begin{array}{l} 1)\bar{y}_4 \nrightarrow S_{22} \\ 2)\bar{y}_8 \\ E(\bar{y}_4) &= \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(S_{22}) &= \{S_{39}\} \\ N_1(\bar{y}_4, S_{22}) &= \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}\} \\ E(\bar{y}_8) &= \{S_{22}, S_{39}\} \\ \bar{y}_8 &\in N_2(\bar{y}_4, S_{22}) &= \text{не выполняется} \\ N_1(\bar{y}_4, S_{22}) &\subseteq E(\bar{y}_8) &- \text{выполняется} \\ \text{не выполняется} \\ 1)\bar{y}_4 \nrightarrow S_{23} \\ 2)S_{22} \\ E(\bar{y}_4) &= \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(S_{23}) &= \{S_{25}, S_{34}\} \\ N_1(\bar{y}_4, S_{23}) &= \{S_{32}, S_{33}\} \\ S_{22} &\in N_2(\bar{y}_4, S_{23}) &= \text{не выполняется} \\ E(S_{22}) &= \{S_{39}\} \\ S_{22} &\in N_2(\bar{y}_4, S_{23}) &- \text{не выполняется} \\ N_1(\bar{y}_4, S_{23}) &\subseteq E(S_{22}) &- \text{не выполняется} \\ \text{не выполняется} \\ 1)\bar{y}_4 \nrightarrow S_{24} \\ 2)S_{23} \\ E(S_{24}) &= \{S_{25}, S_{34}\} \\ N_1(\bar{y}_4, S_{24}) &= \{S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(S_{24}) &= \{S_{25}, S_{34}\} \\ N_1(\bar{y}_4, S_{24}) &= \{S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(S_{24}) &= \{S_{25}, S_{34}\} \\ N_1(\bar{y}_4, S_{24}) &= \{S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{25}\} \\ E(S_{23}) &= \{S_{25}, S_{34}\} \\ N_1(\bar{y}_4, S_{24}) &= \{S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{25}\} \\ E(S_{23}) &= \{S_{25}, S_{34}\} \\ N_1(\bar{y}_4, S_{24}) &= \{S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{25}\} \\ E(S_{23}) &= \{S_{25}, S_{34}\} \\ N_1(\bar{y}_4, S_{24}) &= \{S_{25}, S_{34}\} \\ N_1(\bar{y}_4, S_{24}) &= \{S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{25}\} \\ E(S_{23}) &= \{S_{25}, S_{34}\} \\ N_1(\bar{y}_4, S_{24}) &= E(S_{23}) - E(S_{23}$$

Отношения между операторами:



 $0 \quad 0 \quad 0$

 $S_{40} \ [0 \ 1 \ 1 \ 1 \]$

1 1

1 1 1

1

1

```
\bar{y}_4\,\bar{y}_5\,\bar{y}_6\,\bar{y}_7\,S_{23}\,S_{24}\,S_{25}\,S_{26}\,S_{27}\,S_{28}\,S_{29}\,S_{30}\,S_{31}\,S_{32}\,S_{33}\,S_{34}\,S_{35}\,S_{36}\,S_{37}\,S_{38}\,S_{39}\,S_{40}
              1 1 1 1 1
                                1 1 1 1 1
                                                        1
                                                             1
                                                                 1
                                                                      0
                                                                            0
                                                                                0
                                                                                     0
       \bar{y}_4
                                     1
                                          1
                                                             1
                                                                  1
       \bar{y}_5
              1 1 1 1
                            1
                                 1
                                     1
                                          1
                                               1
                                                    1
                                                        1
                                                             1
                                                                  1
       \bar{y}_7
                                     0
       S_{23}
              1 1 1 1
                            1
                                          1
                                               1
                                                    1
                                                             1
                                                                  1
              1 1 1 1
                                      0
       S_{25}
                    1 1
                            0
                                           1
                                                    0
                                     1
                                           1
                                               1
                                                             1
                     1 1
                                                                  1
                                                    0
       S_{28}
                                      1
                                          0
                                               0
                                                             1
                                                                  1
SI = S_{29}
                                                                  0
                        1
                            1
                                      1
                                           1
                                               1
                                                             1
       S_{30}
                                      1
                                          1
                                                             0
       S_{31}
              1 1 1 1
                            1
                                 1
                                     1
                                          1
                                               1
                                                    1
                                                         0
                                                                  1
       S_{32}
                                      1
                                           1
       S_{33}
                                     1
                                          1
                               0
                                     0
                            0
                                                                       1
       S_{34}
              0 1 1 1
                                          1
                                               1
                                                    1
                                                             1
                                                                  1
       S_{35}
                                      1
       S_{36}
              0\ 1\ 0\ 1
                           1
                                     1
                                          1
                                          0
                                               0
                                                    0
              0 1 1 1 1 1
                                     1
                                                        1
                                                             1
                                                                 1
                                                                       1
                                                                           1
                                                                                1
              0\ 1\ 1\ 1
                            1
                                      1
                                           1
                                                    1
                                                              1
       S_{38}
              0 1 1 0 1
                                               1
                                                        1
                                                                       1
                                 1
                                     1
                                          1
                                                    1
                                                             1
                                                                  1
       S_{40} \begin{bmatrix} 0 & 1 & 1 & 1 & 1 \end{bmatrix}
                               1
                                     1
                                          1
                                               1
                                                    1
                                                         0
                                                             0
                                                                  0
                                                                      1
```

Проверка условия приводимости программы к ППФ (5 из 186):

```
\begin{array}{l} 1)\bar{y}_4 \nrightarrow \bar{y}_6 \\ 2)\bar{y}_5 \\ E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{y}_6) = \{S_{36}\} \\ N_1(\bar{y}_4, \bar{y}_6) = \{S_{36}\} \\ N_2(\bar{y}_4, \bar{y}_6) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{y}_5) = \{S_{33}\} \\ \bar{y}_5 \in N_2(\bar{y}_4, \bar{y}_6) - \text{не выполняется} \\ N_1(\bar{y}_4, \bar{y}_6) \subseteq E(\bar{y}_5) - \text{не выполняется} \end{array}
```

не выполняется

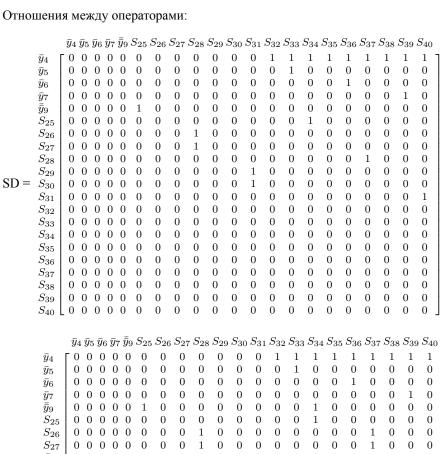
не выполняется

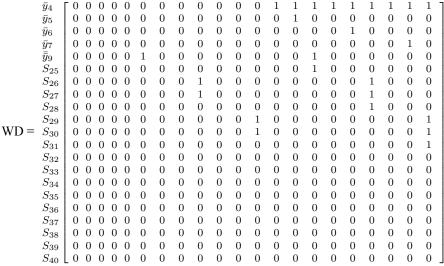
 $\begin{array}{l} 1)\bar{y}_4 \nrightarrow \bar{y}_7 \\ 2)\bar{y}_6 \\ E(\bar{y}_4) = \{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\} \\ E(\bar{y}_7) = \{S_{39}\} \\ N_1(\bar{y}_4,\bar{y}_7) = \{S_{39}\} \\ N_2(\bar{y}_4,\bar{y}_7) = \{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{40}\} \\ E(\bar{y}_6) = \{S_{36}\} \\ \bar{y}_6 \in N_2(\bar{y}_4,\bar{y}_7) - \text{не выполняется} \\ N_1(\bar{y}_4,\bar{y}_7) \subseteq E(\bar{y}_6) - \text{не выполняется} \end{array}$

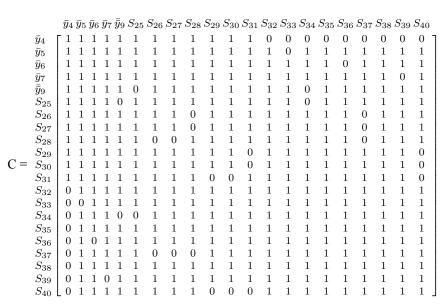
$$\begin{array}{l} 1)\bar{y}_4 \nrightarrow S_{23} \\ 2)\bar{y}_7 \\ E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(S_{23}) = \{S_{25}, S_{34}\} \\ N_1(\bar{y}_4, S_{23}) = \{S_{34}\} \\ N_2(\bar{y}_4, S_{23}) = \{S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{25}\} \\ E(\bar{y}_7) = \{S_{39}\} \\ \bar{y}_7 \in N_2(\bar{y}_4, S_{23}) - \text{не выполняется} \\ N_1(\bar{y}_4, S_{23}) \subseteq E(\bar{y}_7) - \text{не выполняется} \\ \text{не выполняется} \end{array}$$
 не выполняется

$$\begin{split} 1)\bar{y}_4 &\nrightarrow S_{24} \\ 2)S_{23} \\ E(\bar{y}_4) &= \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(S_{24}) &= \{S_{25}, S_{34}\} \\ N_1(\bar{y}_4, S_{24}) &= \{S_{34}\} \\ N_2(\bar{y}_4, S_{24}) &= \{S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{25}\} \end{split}$$

```
E(S_{23}) = \{S_{25}, S_{34}\} S_{23} \in N_2(\bar{y}_4, S_{24}) — не выполняется N_1(\bar{y}_4, S_{24}) \subseteq E(S_{23}) — выполняется не выполняется 1)\bar{y}_4 \nrightarrow S_{25} 2)S_{24} E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} E(S_{25}) = \{S_{34}\} N_1(\bar{y}_4, S_{25}) = \{S_{34}\} N_2(\bar{y}_4, S_{25}) = \{S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} E(S_{24}) = \{S_{25}, S_{34}\} S_{24} \in N_2(\bar{y}_4, S_{25}) — не выполняется N_1(\bar{y}_4, S_{25}) \subseteq E(S_{24}) — выполняется не выполняется
```







```
\bar{y}_4\,\bar{y}_5\,\bar{y}_6\,\bar{y}_7\,\bar{\bar{y}}_9\,S_{25}\,S_{26}\,S_{27}\,S_{28}\,S_{29}\,S_{30}\,S_{31}\,S_{32}\,S_{33}\,S_{34}\,S_{35}\,S_{36}\,S_{37}\,S_{38}\,S_{39}\,S_{40}
            \bar{y}_5
            1 1 1 1 1 1 1
                                      1
                                          1
                                               1
                               1
                                  1
                                      1
                                                                       0
            1 1 1 1 1 1
                                          1
                                               1
                                                   1
                                                       1
                                                           1
                                                               1
                                                                   1
                       1
                               1
                                   1
                                       1
                                           1
                                               1
                                                           1
      \bar{y}_7
            1 \ 1 \ 1 \ 1 \ 1 \ 0
                                      1
                                          1
      \bar{y}_9
            1 1 1 1 0 1
                               1
                                  1
                                      1
                                          1
                                               1
                                                   1
                                                           1
                                       0
      S_{26}
      S_{27}
            1 1 1 1 1
                                       0
                                           1
                                               1
                                                   1
                               0
                                  0
            1 1 1 1 1
                          1
                                      1
                                          1
                                               1
                                                   1
      S_{29}
                           1
                                       1
                                           1
                                               1
SI = S_{30}
                                       1
                                           1
      S_{31}
            1 1 1 1 1
                               1
                                   1
                                       1
                                           0
                                               0
                                                   1
      S_{32}
            0 1 1 1
                       1
                           1
                               1
                                       1
                                           1
            0 0 1 1 1
                                   1
                                       1
                                               1
                           1
                               1
                                           1
                                                   1
                                                           1
            0 \ 1 \ 1 \ 1 \ 0 \ 0
      S_{34}
      S_{35}
                                   1
                                       1
            0 1 1 1 1
                           1
                               1
                                           1
                                               1
                                                   1
            0 1 0 1 1
                           1
                               1
                                  1
                                      1
                                           1
                                               1
                                                   1
                                                           1
                                       0
      S_{37}
            0 1 1 1 1 1
                                           1
            0\ 1\ 1\ 1\ 1\ 1
                               1
                                   1
                                       1
                                           1
                                               1
                                                   1
                                                       1
                                                           1
            0\ 1\ 1\ 0\ 1
                               1
                                   1
                                       1
                                           1
                                               1
                                                   1
                                                       1
                                                           1
           0 1 1 1 1 1
                               1
                                   1
                                      1
                                           0
                                              0
                                                       1
                                                           1
```

Проверка условия приводимости программы к ППФ (5 из 168):

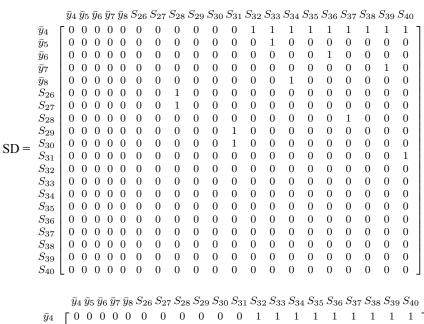
```
1)ar{y}_4 
ightarrow ar{y}_6 2)ar{y}_5 E(ar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} E(ar{y}_6) = \{S_{36}\} N_1(ar{y}_4, ar{y}_6) = \{S_{36}\} N_2(ar{y}_4, ar{y}_6) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}\} E(ar{y}_5) = \{S_{33}\} ar{y}_5 \in N_2(ar{y}_4, ar{y}_6) — не выполняется N_1(ar{y}_4, ar{y}_6) \subseteq E(ar{y}_5) — не выполняется не выполняется
```

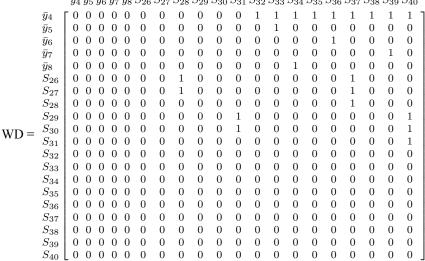
$$\begin{array}{l} 1)\bar{y}_4 \nrightarrow \bar{y}_7 \\ 2)\bar{y}_6 \\ E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{y}_7) = \{S_{39}\} \\ N_1(\bar{y}_4, \bar{y}_7) = \{S_{39}\} \\ N_2(\bar{y}_4, \bar{y}_7) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}\} \\ E(\bar{y}_6) = \{S_{36}\} \\ \bar{y}_6 \in N_2(\bar{y}_4, \bar{y}_7) - \text{не выполняется} \\ N_1(\bar{y}_4, \bar{y}_7) \subseteq E(\bar{y}_6) - \text{не выполняется} \\ \text{не выполняется} \end{array}$$

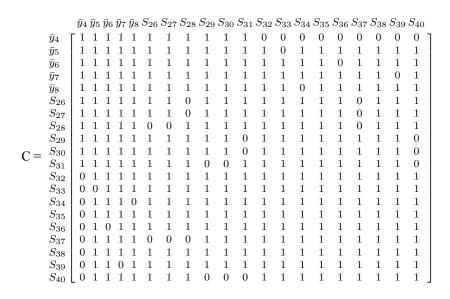
$$\begin{array}{l} 1)\bar{y}_4 \nrightarrow \bar{y}_9 \\ 2)\bar{y}_7 \\ E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{y}_9) = \{S_{25}, S_{34}\} \\ N_1(\bar{y}_4, \bar{y}_9) = \{S_{34}\} \\ N_2(\bar{y}_4, \bar{y}_9) = \{S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{25}\} \\ E(\bar{y}_7) = \{S_{39}\} \\ \bar{y}_7 \in N_2(\bar{y}_4, \bar{y}_9) - \text{не выполняется} \\ N_1(\bar{y}_4, \bar{y}_9) \subseteq E(\bar{y}_7) - \text{не выполняется} \\ \text{не выполняется} \end{array}$$

$$\begin{array}{l} 1)\bar{y}_4 \nrightarrow S_{25} \\ 2)\bar{y}_9 \\ E(\bar{y}_4) = \{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\} \\ E(S_{25}) = \{S_{34}\} \\ N_1(\bar{y}_4,S_{25}) = \{S_{34}\} \\ N_2(\bar{y}_4,S_{25}) = \{S_{32},S_{33},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\} \\ E(\bar{y}_9) = \{S_{25},S_{34}\} \\ \bar{y}_9 \in N_2(\bar{y}_4,S_{25}) - \text{не выполняется} \\ N_1(\bar{y}_4,S_{25}) \subseteq E(\bar{y}_9) - \text{выполняется} \end{array}$$

```
1)ar{y}_4 	oup S_{26} 2)S_{25} E(ar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} E(S_{26}) = \{S_{28}, S_{37}\} N_1(ar{y}_4, S_{26}) = \{S_{37}\} N_2(ar{y}_4, S_{26}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{38}, S_{39}, S_{40}, S_{28}\} E(S_{25}) = \{S_{34}\} S_{25} \in N_2(ar{y}_4, S_{26}) — не выполняется N_1(ar{y}_4, S_{26}) \subseteq E(S_{25}) — не выполняется не выполняется На текущей итерации был выделен последовательный групповой оператор ar{y}_8 = \{ar{y}_9, S_{25}\}
```







```
\bar{y}_4\,\bar{y}_5\,\bar{y}_6\,\bar{y}_7\,\bar{y}_8\,S_{26}\,S_{27}\,S_{28}\,S_{29}\,S_{30}\,S_{31}\,S_{32}\,S_{33}\,S_{34}\,S_{35}\,S_{36}\,S_{37}\,S_{38}\,S_{39}\,S_{40}
            \bar{y}_5
            1 1 1 1 1 1 1
                                           1
                               1
                                  1
                                       1
            1 1 1 1 1 1
                                           1
                                               1
                                                   1
                                                       1
                                                           1
                                                                1
                               1
                                   1
                                       1
                                            1
                                                            1
                                                                                0
      \bar{y}_7
                                       1
                                           1
      \bar{y}_8
                                   0
                                       1
            1 1 1 1 1 1
                               1
                                          - 1
                                               1
                                                   1
                                                            1
                                   0
      S_{27}
      S_{28}
            1 1 1 1 1
                          0
                                       1
                                           1
      S_{29}
            1 1 1 1 1 1
                               1
                                   1
                                       1
                                           1
                                               0
                                                   1
SI = S_{30}
                           1
                                       1
                                            1
                                       0
                                           0
                               1
      S_{32}
            0\ 1\ 1\ 1\ 1
                               1
                                       1
                                           1
      S_{33}
            0 0 1 1
                       1
                           1
                                            1
            0 1 1 1 0
                                       1
                          - 1
                               1
                                   1
                                            1
                                                1
                                                   1
      S_{36}
            0 1 0 1 1
                                       1
                           1
                               1
                                   1
                                           1
            0\ 1\ 1\ 1\ 1\ 0
                               0
                                  0
                                       1
                                           1
                                                1
                                                   1
      S_{38}
            0 1 1 1 1 1
                               1
                                   1
                                       1
                                           1
                                               1
            0\ 1\ 1\ 0\ 1\ 1
                               1
                                   1
                                       1
                                           1
                                               1
                                                   1
      S_{40} \ [ 0 \ 1 \ 1 \ 1 \ 1 
                           1
                               1
                                   1
                                       0
                                           0
                                               0
                                                   1
```

Проверка условия приводимости программы к ППФ (5 из 150):

$$\begin{array}{l} 1)\bar{y}_4 \nrightarrow \bar{y}_6 \\ 2)\bar{y}_5 \\ E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{y}_6) = \{S_{36}\} \\ N_1(\bar{y}_4, \bar{y}_6) = \{S_{36}\} \\ N_2(\bar{y}_4, \bar{y}_6) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{y}_5) = \{S_{33}\} \\ \bar{y}_5 \in N_2(\bar{y}_4, \bar{y}_6) - \text{не выполняется} \\ N_1(\bar{y}_4, \bar{y}_6) \subseteq E(\bar{y}_5) - \text{не выполняется} \end{array}$$

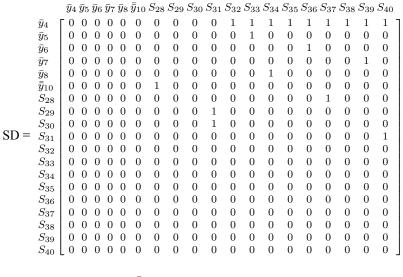
не выполняется

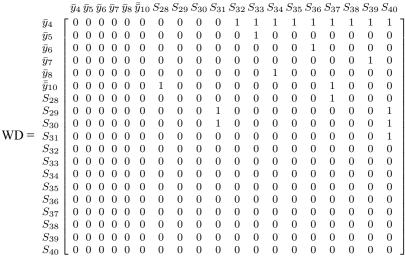
$$\begin{array}{l} 1)\bar{y}_4\nrightarrow\bar{y}_7\\ 2)\bar{y}_6\\ E(\bar{y}_4)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_7)=\{S_{39}\}\\ N_1(\bar{y}_4,\bar{y}_7)=\{S_{39}\}\\ N_2(\bar{y}_4,\bar{y}_7)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{40}\}\\ E(\bar{y}_6)=\{S_{36}\}\\ \bar{y}_6\in N_2(\bar{y}_4,\bar{y}_7)-\text{не выполняется}\\ N_1(\bar{y}_4,\bar{y}_7)\subseteq E(\bar{y}_6)-\text{не выполняется}\\ \text{не выполняется} \end{array}$$
 не выполняется

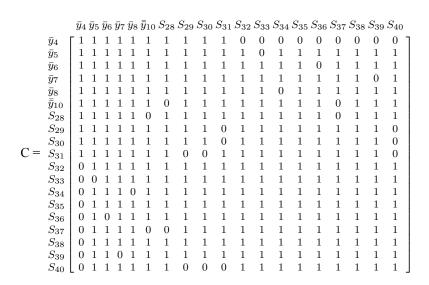
$$\begin{array}{l} 1)\bar{y}_4 \nrightarrow \bar{y}_8 \\ 2)\bar{y}_7 \\ E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{y}_8) = \{S_{34}\} \\ N_1(\bar{y}_4, \bar{y}_8) = \{S_{34}\} \\ N_2(\bar{y}_4, \bar{y}_8) = \{S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{y}_7) = \{S_{39}\} \\ \bar{y}_7 \in N_2(\bar{y}_4, \bar{y}_8) - \text{не выполняется} \\ N_1(\bar{y}_4, \bar{y}_8) \subseteq E(\bar{y}_7) - \text{не выполняется} \\ \text{не выполняется} \end{array}$$

$$\begin{array}{l} 1)\bar{y}_4\nrightarrow S_{26}\\ 2)\bar{y}_8\\ E(\bar{y}_4)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(S_{26})=\{S_{28},S_{37}\}\\ N_1(\bar{y}_4,S_{26})=\{S_{37}\}\\ N_2(\bar{y}_4,S_{26})=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{38},S_{39},S_{40},S_{28}\}\\ E(\bar{y}_8)=\{S_{34}\}\\ \bar{y}_8\in N_2(\bar{y}_4,S_{26})-\text{не выполняется}\\ N_1(\bar{y}_4,S_{26})\subseteq E(\bar{y}_8)-\text{не выполняется} \end{array}$$

```
1)ar{y}_4 
ightarrow S_{27} 2)S_{26} E(ar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} E(S_{27}) = \{S_{28}, S_{37}\} N_1(ar{y}_4, S_{27}) = \{S_{37}\} N_2(ar{y}_4, S_{27}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{38}, S_{39}, S_{40}, S_{28}\} E(S_{26}) = \{S_{28}, S_{37}\} S_{26} \in N_2(ar{y}_4, S_{27}) — не выполняется N_1(ar{y}_4, S_{27}) \subseteq E(S_{26}) — выполняется не выполняется не выполняется
```







```
\bar{y}_4\,\bar{y}_5\,\bar{y}_6\,\bar{y}_7\,\bar{y}_8\,\bar{\bar{y}}_{10}\,S_{28}\,S_{29}\,S_{30}\,S_{31}\,S_{32}\,S_{33}\,S_{34}\,S_{35}\,S_{36}\,S_{37}\,S_{38}\,S_{39}\,S_{40}
           \bar{y}_5
            1 1 1 1 1 1 1
                                 1 1
                                         1
                                                             0
            1 1 1 1 1 1 1
                                 1
                                     1
                                         1
                                             1
                                                         1
                                                                            1
            1 1 1 1 1 1
                                 1
                                     1
                                                                            1
      \bar{y}_7
           1 1 1 1 1 1
                                     1
                                         1
      \bar{y}_8
           1 1 1 1 1 1 0
                                 1 1
                                         1
                                             1
                                                     1
                          0
      S_{28}
      S_{29}
                         1
                                 1
                                     1
                                         0
                                             1
      S_{30}
           1\ 1\ 1\ 1\ 1\ 1\ 1
                                 1
                                     1
                                         0
                                             1
                                                1
SI = S_{31}
                       1
                          1
                                 0
                                     0
                                         1
      S_{32}
            0 1 1 1 1 1
                                 1
                                     1
      S_{33}
            0 \ 0 \ 1 \ 1 \ 1 \ 1
                                     1
                                             1
            0 1 1 1 0 1
      S_{34}
                             1
                                 1
                                     1
                                         1
            0 1 1 1 1 1
                                 1
                                             1
                             1
                                     1
                                         1
                                                         1
            0\ 1\ 0\ 1\ 1\ 1
      S_{36}
      S_{37}
            0 \ 1 \ 1 \ 1 \ 1 \ 0 \ 0
                                 1
                                     1
                                         1
            0 1 1 1 1 1
                             1
                                 1
                                     1
                                         1
                                             1
                                                         1
                                                                            1
      S_{39}
           0 \ 1 \ 1 \ 0 \ 1 \ 1 \ 1
                                 1 1
                                         1
                                             1
                                                         1
      1
                                                1
```

Проверка условия приводимости программы к ППФ (5 из 134):

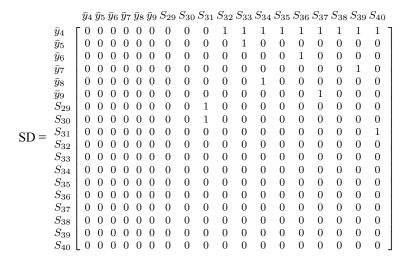
```
\begin{array}{l} 1)\bar{y}_4\nrightarrow\bar{y}_6\\ 2)\bar{y}_5\\ E(\bar{y}_4)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_6)=\{S_{36}\}\\ N_1(\bar{y}_4,\bar{y}_6)=\{S_{36}\}\\ N_2(\bar{y}_4,\bar{y}_6)=\{S_{32},S_{33},S_{34},S_{35},S_{37},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_5)=\{S_{33}\}\\ \bar{y}_5\in N_2(\bar{y}_4,\bar{y}_6)-\text{не выполняется}\\ N_1(\bar{y}_4,\bar{y}_6)\subseteq E(\bar{y}_5)-\text{не выполняется}\\ \text{не выполняется} \end{array} не выполняется
```

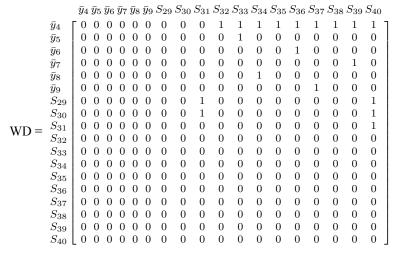
$$\begin{array}{l} 1)\bar{y}_4\nrightarrow\bar{y}_7\\ 2)\bar{y}_6\\ E(\bar{y}_4)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_7)=\{S_{39}\}\\ N_1(\bar{y}_4,\bar{y}_7)=\{S_{39}\}\\ N_2(\bar{y}_4,\bar{y}_7)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{40}\}\\ E(\bar{y}_6)=\{S_{36}\}\\ \bar{y}_6\in N_2(\bar{y}_4,\bar{y}_7)-\text{не выполняется}\\ N_1(\bar{y}_4,\bar{y}_7)\subseteq E(\bar{y}_6)-\text{не выполняется}\\ \text{не выполняется} \end{array}$$

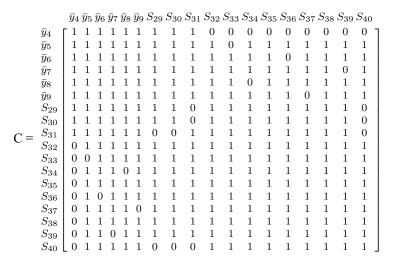
$$\begin{array}{l} 1)\bar{y}_4 \nrightarrow \bar{y}_8 \\ 2)\bar{y}_7 \\ E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{y}_8) = \{S_{34}\} \\ N_1(\bar{y}_4, \bar{y}_8) = \{S_{34}\} \\ N_2(\bar{y}_4, \bar{y}_8) = \{S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{y}_7) = \{S_{39}\} \\ \bar{y}_7 \in N_2(\bar{y}_4, \bar{y}_8) - \text{не выполняется} \\ N_1(\bar{y}_4, \bar{y}_8) \subseteq E(\bar{y}_7) - \text{не выполняется} \\ \text{не выполняется} \end{array}$$
 не выполняется

$$\begin{array}{l} 1)\bar{y}_4 \nrightarrow \bar{\bar{y}}_{10} \\ 2)\bar{y}_8 \\ E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{\bar{y}}_{10}) = \{S_{28}, S_{37}\} \\ N_1(\bar{y}_4, \bar{\bar{y}}_{10}) = \{S_{37}\} \\ N_2(\bar{y}_4, \bar{\bar{y}}_{10}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{38}, S_{39}, S_{40}, S_{28}\} \\ E(\bar{y}_8) = \{S_{34}\} \\ \bar{y}_8 \in N_2(\bar{y}_4, \bar{\bar{y}}_{10}) - \text{не выполняется} \\ N_1(\bar{y}_4, \bar{\bar{y}}_{10}) \subseteq E(\bar{y}_8) - \text{не выполняется} \\ \text{не выполняется} \end{array}$$

```
1)ar{y}_4 
ightarrow S_{28} 2)ar{y}_{10} E(ar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} E(S_{28}) = \{S_{37}\} N_1(ar{y}_4, S_{28}) = \{S_{37}\} N_2(ar{y}_4, S_{28}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{38}, S_{39}, S_{40}\} E(ar{y}_{10}) = \{S_{28}, S_{37}\} ar{y}_{10} \in N_2(ar{y}_4, S_{28}) — не выполняется N_1(ar{y}_4, S_{28}) \subseteq E(ar{y}_{10}) — выполняется не выполняется не выполняется
```







```
\bar{y}_4 \, \bar{y}_5 \, \bar{y}_6 \, \bar{y}_7 \, \bar{y}_8 \, \bar{y}_9 \, S_{29} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40}
      \bar{y}_5
      1 1 1 1 1 1 1
      1 1 1 1 1 1 1
                              1
                                  1
                                           1
       1 1 1 1 1 1
                          1
\bar{y}_7
      1 1 1 1 1 1 1
\bar{y}_8
      1 1 1 1 1 1 1
                              1
                                   1
                                           1
                                                1
                                   0
S_{29}
S_{30}
      1 1 1 1 1 1 1
      1 1 1 1 1 1 0
                              0
                                   1
S_{32}
                   1 1
                          1
                              1
       0 0 1 1 1 1
                          1
       0\ 1\ 1\ 1\ 0\ 1\ 1
                              1
       0\ 1\ 1\ 1\ 1\ 1
                          1
                              1
      0 1 0 1 1 1 1
                              1
                                   1
                                            1
                                                1
       0\ 1\ 1\ 1\ 1\ 0\ 1
       0 1 1 1 1 1 1
                              1
       0\ 1\ 1\ 0\ 1\ 1\ 1
                              1
                                  1
                                       1
                                            1
                                                1
S_{40} \ [ \ 0 \ 1 \ 1 \ 1 \ 1 \ 1 \ 0 \ 0 \ 0 \ ]
                                      1
                                           1
                                                1
                                                    1
                                                         1
```

Проверка условия приводимости программы к ППФ (5 из 118):

$$1)ar{y}_4
ightarrow ar{y}_6$$
 $2)ar{y}_5$ $E(ar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}$ $E(ar{y}_6) = \{S_{36}\}$ $N_1(ar{y}_4, ar{y}_6) = \{S_{36}\}$ $N_2(ar{y}_4, ar{y}_6) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}\}$ $E(ar{y}_5) = \{S_{33}\}$ $ar{y}_5 \in N_2(ar{y}_4, ar{y}_6) - \text{не выполняется}$ $N_1(ar{y}_4, ar{y}_6) \subseteq E(ar{y}_5) - \text{не выполняется}$

$$\begin{array}{l} 1)\bar{y}_4 \nrightarrow \bar{y}_7 \\ 2)\bar{y}_6 \\ E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{y}_7) = \{S_{39}\} \\ N_1(\bar{y}_4, \bar{y}_7) = \{S_{39}\} \\ N_2(\bar{y}_4, \bar{y}_7) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}\} \\ E(\bar{y}_6) = \{S_{36}\} \\ \bar{y}_6 \in N_2(\bar{y}_4, \bar{y}_7) - \text{не выполняется} \\ N_2(\bar{y}_4, \bar{y}_7) \subseteq E(\bar{y}_8) - \text{не выполняется} \\ N_2(\bar{y}_4, \bar{y}_7) \subseteq E(\bar{y}_8) - \text{не выполняется} \end{array}$$

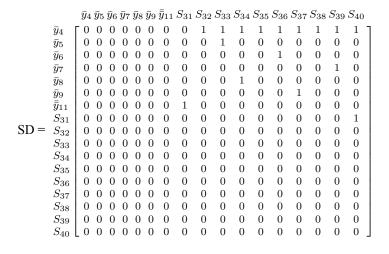
 $N_1(ar{y}_4,ar{y}_7)\subseteq E(ar{y}_6)$ — не выполняется

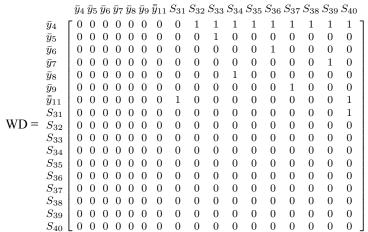
не выполняется

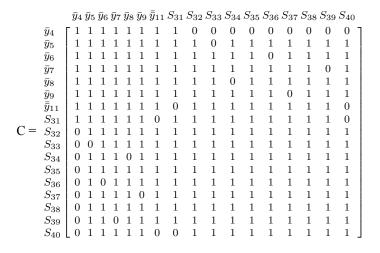
$$\begin{array}{l} 1)\bar{y}_4 \nrightarrow \bar{y}_8 \\ 2)\bar{y}_7 \\ E(\bar{y}_4) = \{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\} \\ E(\bar{y}_8) = \{S_{34}\} \\ N_1(\bar{y}_4,\bar{y}_8) = \{S_{34}\} \\ N_2(\bar{y}_4,\bar{y}_8) = \{S_{32},S_{33},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\} \\ E(\bar{y}_7) = \{S_{39}\} \\ \bar{y}_7 \in N_2(\bar{y}_4,\bar{y}_8) - \text{не выполняется} \\ N_1(\bar{y}_4,\bar{y}_8) \subseteq E(\bar{y}_7) - \text{не выполняется} \\ \text{не выполняется} \end{array}$$
 не выполняется

$$\begin{array}{l} 1)\bar{y}_4\nrightarrow\bar{y}_9\\ 2)\bar{y}_8\\ E(\bar{y}_4)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_9)=\{S_{37}\}\\ N_1(\bar{y}_4,\bar{y}_9)=\{S_{37}\}\\ N_2(\bar{y}_4,\bar{y}_9)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_8)=\{S_{34}\}\\ \bar{y}_8\in N_2(\bar{y}_4,\bar{y}_9)-\text{не выполняется}\\ N_1(\bar{y}_4,\bar{y}_9)\subseteq E(\bar{y}_8)-\text{не выполняется}\\ \text{не выполняется} \end{array}$$

```
1)ar{y}_4 
to S_{29} 2)ar{y}_9 E(ar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} E(S_{29}) = \{S_{31}, S_{40}\} N_1(ar{y}_4, S_{29}) = \{S_{40}\} N_2(ar{y}_4, S_{29}) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{31}\} E(ar{y}_9) = \{S_{37}\} ar{y}_9 \in N_2(ar{y}_4, S_{29}) — не выполняется N_1(ar{y}_4, S_{29}) \subseteq E(ar{y}_9) — не выполняется не выполняется На текущей итерации был выделен паралллельный групповой оператор ar{y}_{11} = \{S_{29}, S_{30}\}
```







```
\bar{y}_4\,\bar{y}_5\,\bar{y}_6\,\bar{y}_7\,\bar{y}_8\,\bar{y}_9\,\bar{\bar{y}}_{11}\,S_{31}\,S_{32}\,S_{33}\,S_{34}\,S_{35}\,S_{36}\,S_{37}\,S_{38}\,S_{39}\,S_{40}
             \bar{y}_5
              1 1 1 1 1 1 1
                                                            0
              1 1 1 1 1 1 1
                                     1
                                         1
                                                   1
                                                        1
                                                                               1
              1 1 1 1 1 1
                                 1
                                      1
                                                                          0
       \bar{y}_7
             1 1 1 1 1 1 1
       \bar{y}_8
              1 1 1 1 1 1 1
                                     1
                                                   1
                                                        1
                                      0
       \bar{\bar{y}}_{11}
              1 1 1 1 1 1 0
                                     1
       S_{31}
SI = S_{32}
              0\  \  \, 1\  \  \, 1\  \  \, 1\  \  \, 1\  \  \, 1
                                     1
                                         1
       S_{33}
              0 \ 0 \ 1 \ 1
                          1 1
                                 1
                                      1
              0 1 1 1 0 1 1
                                     1
              0\ 1\ 1\ 1\ 1\ 1\ 1
                                     1
       S_{36}
              0\ 1\ 0\ 1\ 1\ 1\ 1
              0 1 1 1 1 0 1
                                     1
                                         1
                                                   1
              0\  \  1\  \  1\  \  1\  \  1\  \  1
       S_{38}
              0 1 1 0 1 1 1
                                     1
                                         1
                                    0
            1
                                              1
                                                   1
```

Проверка условия приводимости программы к ППФ (5 из 104):

$$\begin{array}{c} 1)\bar{y}_4 \nrightarrow \bar{y}_6 \\ 2)\bar{y}_5 \end{array}$$

$$E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}$$

$$E(\bar{y}_6) = \{S_{36}\}$$

$$N_1(\bar{y}_4, \bar{y}_6) = \{S_{36}\}\$$

$$N_2(\bar{y}_4, \bar{y}_6) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}\}$$

$$E(\bar{y}_5) = \{S_{33}\}$$

$$ar{y}_5 \in N_2(ar{y}_4, ar{y}_6)$$
 — не выполняется

$$N_1(\bar{y}_4,\bar{y}_6)\subseteq E(\bar{y}_5)$$
 — не выполняется

не выполняется

$$\begin{array}{l} 1)\bar{y}_4\nrightarrow\bar{y}_7\\ 2)\bar{y}_6\\ E(\bar{y}_4)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_7)=\{S_{39}\}\\ N_1(\bar{y}_4,\bar{y}_7)=\{S_{39}\}\\ N_2(\bar{y}_4,\bar{y}_7)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{40}\}\\ E(\bar{y}_6)=\{S_{36}\}\\ \bar{y}_6\in N_2(\bar{y}_4,\bar{y}_7)-\text{не выполняется}\\ N_1(\bar{y}_4,\bar{y}_7)\subseteq E(\bar{y}_6)-\text{не выполняется} \end{array}$$

не выполняется

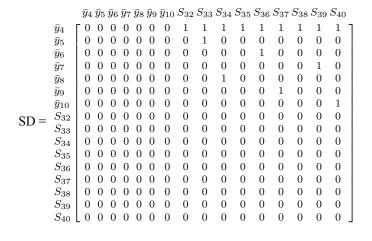
$$\begin{array}{l} 1)\bar{y}_4\nrightarrow\bar{y}_8\\ 2)\bar{y}_7\\ E(\bar{y}_4)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_8)=\{S_{34}\}\\ N_1(\bar{y}_4,\bar{y}_8)=\{S_{34}\}\\ N_2(\bar{y}_4,\bar{y}_8)=\{S_{32},S_{33},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_7)=\{S_{39}\}\\ \bar{y}_7\in N_2(\bar{y}_4,\bar{y}_8)-\text{не выполняется}\\ N_1(\bar{y}_4,\bar{y}_8)\subseteq E(\bar{y}_7)-\text{не выполняется} \end{array}$$

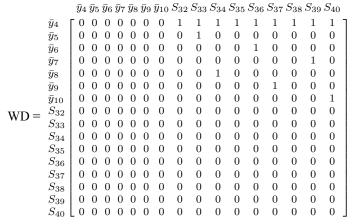
не выполняется

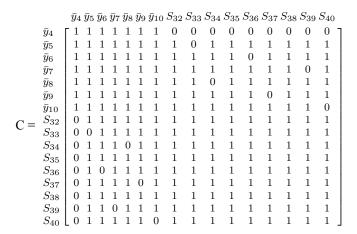
$$\begin{array}{l} 1)\bar{y}_4 \nrightarrow \bar{y}_9 \\ 2)\bar{y}_8 \\ E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{y}_9) = \{S_{37}\} \\ N_1(\bar{y}_4, \bar{y}_9) = \{S_{37}\} \\ N_2(\bar{y}_4, \bar{y}_9) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{y}_8) = \{S_{34}\} \\ \bar{y}_8 \in N_2(\bar{y}_4, \bar{y}_9) - \text{не выполняется} \\ N_1(\bar{y}_4, \bar{y}_9) \subseteq E(\bar{y}_8) - \text{не выполняется} \\ \text{не выполняется} \end{array}$$
 не выполняется

 $1)\bar{y}_4 \nrightarrow \bar{\bar{y}}_{11}$

```
2)\bar{y}_9 E(\bar{y}_4)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\} E(\bar{y}_{11})=\{S_{31},S_{40}\} N_1(\bar{y}_4,\bar{y}_{11})=\{S_{40}\} N_2(\bar{y}_4,\bar{y}_{11})=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{31}\} E(\bar{y}_9)=\{S_{37}\} \bar{y}_9\in N_2(\bar{y}_4,\bar{y}_{11}) — не выполняется N_1(\bar{y}_4,\bar{y}_{11})\subseteq E(\bar{y}_9) — не выполняется не выполняется
```







```
\bar{y}_4 \, \bar{y}_5 \, \bar{y}_6 \, \bar{y}_7 \, \bar{y}_8 \, \bar{y}_9 \, \bar{y}_{10} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40}
               \bar{y}_5
               1 1 1 1 1 1 1
                                                             0
               1 1 1 1 1 1 1
                                         1
                                              1
                                                        1
               1 1 1 1 1 1
                                    1
                                         1
        \bar{y}_7
               1 1 1 1 1 1 1
        \bar{y}_8
               1 1 1 1 1 1 1
                                         1
                                              1
                                                   1
                                                        1
                                                             1
        \bar{y}_{10}
SI = \begin{array}{c} S_{32} \\ S_{33} \end{array}
              0 1 1 1 1 1 1
                                         1
              0 \ 0 \ 1 \ 1 \ 1 \ 1
                                         1
                                              1
        S_{34}
               0\ 1\ 1\ 1\ 0\ 1
                                    1
                                         1
               0 1 1 1 1 1 1
               0\ 1\ 0\ 1\ 1\ 1\ 1
                                         1 1
               0 1 1 1 1 0 1
        S_{37}
                                         1
                                                        1
               0 1 1 1 1 1 1
                                         1
                                              1
                                                   1
                                                        1
               0\ 1\ 1\ 0\ 1\ 1\ 1
        S_{40} \ [ 0 \ 1 \ 1 \ 1 \ 1 \ 1 \ 0 ]
                                        1
                                              1
                                                   1
                                                        1
Проверка условия приводимости программы к ППФ (5 из 90):
1)\bar{y}_4 \nrightarrow \bar{y}_6
2)\bar{y}_5
E(\bar{y}_4) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_6) = \{S_{36}\}
N_1(\bar{y}_4, \bar{y}_6) = \{S_{36}\}
```

$$1)\bar{y}_4 \nrightarrow \bar{y}_6$$

$$2)\bar{y}_5$$

$$E(\bar{y}_6) = \{S_{36}\}$$

$$N_1(\bar{y}_4, \bar{y}_6) = \{S_{36}\}$$

$$N_2(\bar{y}_4, \bar{y}_6) = \{S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}\}$$

$$E(\bar{y}_5) = \{S_{33}\}$$

$$\bar{y}_{5} \in N_{2}(\bar{y}_{4}, \bar{y}_{6})$$
 — не выполняется

$$N_1(ar{y}_4,ar{y}_6)\subseteq E(ar{y}_5)$$
 — не выполняется

не выполняется

$$\begin{array}{l} 1)\bar{y}_4\nrightarrow\bar{y}_7\\ 2)\bar{y}_6\\ E(\bar{y}_4)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_7)=\{S_{39}\}\\ N_1(\bar{y}_4,\bar{y}_7)=\{S_{39}\}\\ N_2(\bar{y}_4,\bar{y}_7)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{40}\}\\ E(\bar{y}_6)=\{S_{36}\}\\ \bar{y}_6\in N_2(\bar{y}_4,\bar{y}_7)-\text{не выполняется} \end{array}$$

 $N_1(\bar{y}_4, \bar{y}_7) \subseteq E(\bar{y}_6)$ — не выполняется

не выполняется

$$\begin{array}{l} 1)\bar{y}_4\nrightarrow\bar{y}_8\\ 2)\bar{y}_7\\ E(\bar{y}_4)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_8)=\{S_{34}\}\\ N_1(\bar{y}_4,\bar{y}_8)=\{S_{34}\}\\ N_2(\bar{y}_4,\bar{y}_8)=\{S_{32},S_{33},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_7)=\{S_{39}\}\\ \bar{y}_7\in N_2(\bar{y}_4,\bar{y}_8)-\text{не выполняется}\\ N_1(\bar{y}_4,\bar{y}_8)\subseteq E(\bar{y}_7)-\text{не выполняется} \end{array}$$

$$\begin{array}{l} 1)\bar{y}_4\nrightarrow\bar{y}_9\\ 2)\bar{y}_8\\ E(\bar{y}_4)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_9)=\{S_{37}\}\\ N_1(\bar{y}_4,\bar{y}_9)=\{S_{37}\}\\ N_2(\bar{y}_4,\bar{y}_9)=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{38},S_{39},S_{40}\}\\ E(\bar{y}_8)=\{S_{34}\}\\ \bar{y}_8\in N_2(\bar{y}_4,\bar{y}_9)-\text{не выполняется}\\ N_1(\bar{y}_4,\bar{y}_9)\subseteq E(\bar{y}_8)-\text{не выполняется}\\ \text{не выполняется}\\ \end{array}$$
 не выполняется

$$\begin{array}{c} 1)\bar{y}_4 \nrightarrow \bar{y}_{10} \\ 2)\bar{y}_9 \end{array}$$

```
\begin{split} E(\bar{y}_4) &= \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} \\ E(\bar{y}_{10}) &= \{S_{40}\} \\ N_1(\bar{y}_4, \bar{y}_{10}) &= \{S_{40}\} \\ N_2(\bar{y}_4, \bar{y}_{10}) &= \{S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}\} \\ E(\bar{y}_9) &= \{S_{37}\} \\ \bar{y}_9 &\in N_2(\bar{y}_4, \bar{y}_{10}) - \text{не выполняется} \\ N_1(\bar{y}_4, \bar{y}_{10}) \subseteq E(\bar{y}_9) - \text{не выполняется} \\ \text{не выполняется} \end{split}
```

На текущей итерации был выделен паралллельный групповой оператор $\bar{\bar{y}}_{12}=\{S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40}\}$

Отношения между операторами:

$$\mathrm{WD} = \begin{bmatrix} \bar{y}_4 \ \bar{y}_5 \ \bar{y}_6 \ \bar{y}_7 \ \bar{y}_8 \ \bar{y}_9 \ \bar{y}_{10} \ \bar{y}_{12} \\ \bar{y}_4 \\ \bar{y}_5 \\ \bar{y}_6 \\ \bar{y}_6 \\ \bar{y}_7 \\ \bar{y}_8 \\ \bar{y}_9 \\ \bar{y}_{10} \\ \bar{y}_{12} \end{bmatrix} \begin{bmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$$

$$\mathbf{C} = \begin{bmatrix} \bar{y}_4 \ \bar{y}_5 \ \bar{y}_6 \ \bar{y}_7 \ \bar{y}_8 \ \bar{y}_9 \ \bar{y}_{10} \ \bar{\bar{y}}_{12} \\ \bar{y}_5 \\ \bar{y}_6 \\ \bar{y}_6 \\ \bar{y}_6 \\ \bar{y}_7 \\ \bar{y}_8 \\ \bar{y}_9 \\ \bar{y}_{10} \\ \bar{y}_{11} \\ \bar{y}_{12} \end{bmatrix} \begin{bmatrix} 1 & 1 & 1 & 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 1 & 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 1 & 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 1 & 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 1 & 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 1 & 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 1 & 1 & 1 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix}$$

$$\mathrm{SI} = \begin{array}{c} \bar{y}_4 \; \bar{y}_5 \; \bar{y}_6 \; \bar{y}_7 \; \bar{y}_8 \; \bar{y}_9 \; \bar{y}_{10} \; \bar{\bar{y}}_{12} \\ \bar{y}_4 \\ \bar{y}_5 \\ \bar{y}_6 \\ \bar{y}_6 \\ \bar{y}_7 \\ \bar{y}_8 \\ \bar{y}_9 \\ \bar{y}_{10} \\ \bar{y}_{12} \\ \end{array} \begin{array}{c} 1 \; 1 \; 1 \; 1 \; 1 \; 1 \; 1 \; 0 \\ 1 \; 1 \; 1 \; 1 \; 1 \; 1 \; 1 \; 0 \\ 1 \; 1 \; 1 \; 1 \; 1 \; 1 \; 1 \; 0 \\ 1 \; 1 \; 1 \; 1 \; 1 \; 1 \; 1 \; 0 \\ 1 \; 1 \; 1 \; 1 \; 1 \; 1 \; 1 \; 0 \\ 1 \; 1 \; 1 \; 1 \; 1 \; 1 \; 1 \; 0 \\ 0 \; 0 \; 0 \; 0 \; 0 \; 0 \; 0 \; 0 \; 1 \end{array}$$

Проверка условия приводимости программы к ППФ (5 из 15):

```
1)ar{y}_4 
ightarrow ar{y}_6 2)ar{y}_5 E(ar{y}_4) = \{ar{y}_{12}\} E(ar{y}_6) = \{ar{y}_{12}\} N_1(ar{y}_4, ar{y}_6) = \{ar{y}_{12}\} N_2(ar{y}_4, ar{y}_6) = \varnothing E(ar{y}_5) = \{ar{y}_{12}\} ar{y}_5 \in N_2(ar{y}_4, ar{y}_6) — не выполняется N_1(ar{y}_4, ar{y}_6) \subseteq E(ar{y}_5) — выполняется не выполняется
```

$$\begin{array}{l} 1)\bar{y}_{4} \nrightarrow \bar{y}_{7} \\ 2)\bar{y}_{6} \\ E(\bar{y}_{4}) = \{\bar{y}_{12}\} \\ E(\bar{y}_{7}) = \{\bar{y}_{12}\} \\ N_{1}(\bar{y}_{4}, \bar{y}_{7}) = \{\bar{y}_{12}\} \end{array}$$

```
N_2(\bar{y}_4, \bar{y}_7) = \varnothing
E(\bar{y}_6) = \{\bar{y}_{12}\}\
ar{y}_6 \in N_2(ar{y}_4, ar{y}_7) — не выполняется
N_1(\bar{y}_4,\bar{y}_7)\subseteq E(\bar{y}_6) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow \bar{y}_8
2)\bar{y}_7
E(\bar{y}_4) = \{\bar{y}_{12}\}\
E(\bar{y}_8) = \{\bar{y}_{12}\}\
N_1(\bar{y}_4, \bar{y}_8) = \{\bar{y}_{12}\}
N_2(\bar{y}_4, \bar{y}_8) = \varnothing
E(\bar{y}_7) = \{\bar{y}_{12}\}
ar{y}_7 \in N_2(ar{y}_4, ar{y}_8) — не выполняется
N_1(\bar{y}_4,\bar{y}_8)\subseteq E(\bar{y}_7) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow \bar{y}_9
2)\bar{y}_8
E(\bar{y}_4) = \{\bar{y}_{12}\}\
E(\bar{y}_9) = \{\bar{y}_{12}\}\
N_1(\bar{y}_4, \bar{y}_9) = \{\bar{\bar{y}}_{12}\}
N_2(\bar{y}_4, \bar{y}_9) = \varnothing
E(\bar{y}_8) = \{\bar{y}_{12}\}
ar{y}_8 \in N_2(ar{y}_4, ar{y}_9) — не выполняется
N_1(\bar{y}_4,\bar{y}_9)\subseteq E(\bar{y}_8) — выполняется
не выполняется
1)\bar{y}_4 \nrightarrow \bar{y}_{10}
2)\bar{y}_9
E(\bar{y}_4) = \{\bar{y}_{12}\}\
E(\bar{y}_{10}) = \{\bar{\bar{y}}_{12}\}
N_1(\bar{y}_4, \bar{y}_{10}) = \{\bar{y}_{12}\}
N_2(\bar{y}_4, \bar{y}_{10}) = \varnothing
E(\bar{y}_9) = \{\bar{y}_{12}\}
ar{y}_9 \in N_2(ar{y}_4, ar{y}_{10}) — не выполняется
N_1(\bar{y}_4, \bar{y}_{10}) \subseteq E(\bar{y}_9) — выполняется
```

На текущей итерации был выделен парал
ллельный групповой оператор $\bar{\bar{y}}_{13}=\{\bar{y}_4,\bar{y}_5,\bar{y}_6,\bar{y}_7,\bar{y}_8,\bar{y}_9,\bar{y}_{10}\}$

Отношения между операторами:

$$\mathrm{SD} = \begin{array}{c} \bar{y}_{13} \, \bar{y}_{12} \\ \bar{y}_{13} \, \bar{y}_{12} \\ \bar{y}_{12} \, \begin{bmatrix} \, 0 \quad 1 \\ \, 0 \quad 0 \, \, \end{bmatrix}$$

$$\text{WD} = \begin{array}{c} \bar{y}_{13} \, \bar{y}_{12} \\ \bar{y}_{13} \left[\begin{array}{cc} 0 & 1 \\ 0 & 0 \end{array} \right]$$

$$\mathbf{C} = \begin{array}{c} \bar{y}_{13} \, \bar{y}_{12} \\ \bar{y}_{13} \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$$

$$\mathrm{SI} = \begin{array}{c} \bar{y}_{13} \, \bar{y}_{12} \\ \bar{y}_{13} \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$$

Проверка условия приводимости программы к ППФ (0 из 0):

На текущей итерации был выделен последовательный групповой оператор $\bar{y}_{11}=\{\bar{\bar{y}}_{13},\bar{\bar{y}}_{12}\}$

ПРИЛОЖЕНИЕ Б

```
S_1
C(S_1) = \{a_{2233}\}
R(S_1) = \{a_{22}, a_{33}\}
I(S_1) = \{a_{22}, a_{33}\}
O(S_1) = \{a_{2233}\}
S_2
C(S_2) = \{a_{2332}\}
R(S_2) = \{a_{23}, a_{32}\}\
I(S_2) = \{a_{23}, a_{32}\}
O(S_2) = \{a_{2332}\}
S_3
C(S_3) = \{A_{11}\}
R(S_3) = \{a_{2233}, a_{2332}\}
I(S_3) = \emptyset
O(S_3) = \{A_{11}\}
S_4
C(S_4) = \{a_{2133}\}
R(S_4) = \{a_{21}, a_{33}\}
I(S_4) = \{a_{21}, a_{33}\}
O(S_4) = \{a_{2133}\}
S_5
C(S_5) = \{a_{2331}\}
R(S_5) = \{a_{23}, a_{31}\}
I(S_5) = \{a_{23}, a_{31}\}
O(S_5) = \{a_{2331}\}
S_6
C(S_6) = \{A_{12}\}
R(S_6) = \{a_{2133}, a_{2331}\}
I(S_6) = \emptyset
O(S_6) = \{A_{12}\}
S_7
C(S_7) = \{a_{2132}\}
R(S_7) = \{a_{21}, a_{32}\}
I(S_7) = \{a_{21}, a_{32}\}
O(S_7) = \{a_{2132}\}
C(S_8) = \{a_{2232}\}
R(S_8) = \{a_{22}, a_{32}\}
I(S_8) = \{a_{22}, a_{32}\}
O(S_8) = \{a_{2232}\}
S_9
C(S_9) = \{A_{13}\}
R(S_9) = \{a_{2132}, a_{2232}\}\
I(S_9) = \emptyset
O(S_9) = \{A_{13}\}
S_{10}
C(S_{10}) = \{aA_{1111}\}\
R(S_{10}) = \{a_{11}, A_{11}\}\
I(S_{10}) = \{a_{11}\}
O(S_{10}) = \{aA_{1111}\}
S_{11}
C(S_{11}) = \{aA_{1212}\}
R(S_{11}) = \{a_{12}, A_{12}\}
I(S_{11}) = \{a_{12}\}
O(S_{11}) = \{aA_{1212}\}\
S_{12}
C(S_{12}) = \{aA_{1313}\}\
R(S_{12}) = \{a_{13}, A_{13}\}\
I(S_{12}) = \{a_{13}\}
```

```
O(S_{12}) = \{aA_{1313}\}\
S_{13}
C(S_{13}) = \{\Delta\}
R(S_{13}) = \{aA_{1111}, aA_{1212}, aA_{1313}\}\
I(S_{13}) = \emptyset
O(S_{13}) = \{\Delta\}
S_{14}
C(S_{14}) = \{a_{1233}\}
R(S_{14}) = \{a_{12}, a_{33}\}
I(S_{14}) = \{a_{12}, a_{33}\}\
O(S_{14}) = \{a_{1233}\}
S_{15}
C(S_{15}) = \{a_{1332}\}\
R(S_{15}) = \{a_{13}, a_{32}\}\
I(S_{15}) = \{a_{13}, a_{32}\}\
O(S_{15}) = \{a_{1332}\}\
S_{16}
C(S_{16}) = \{A_{21}\}\
R(S_{16}) = \{a_{1233}, a_{1332}\}\
I(S_{16}) = \emptyset
O(S_{16}) = \{A_{21}\}
S_{17}
C(S_{17}) = \{a_{1133}\}
R(S_{17}) = \{a_{11}, a_{33}\}
I(S_{17}) = \{a_{11}, a_{33}\}
O(S_{17}) = \{a_{1133}\}
S_{18}
C(S_{18}) = \{a_{1331}\}\
R(S_{18}) = \{a_{13}, a_{31}\}
I(S_{18}) = \{a_{13}, a_{31}\}
O(S_{18}) = \{a_{1331}\}\
S_{19}
C(S_{19}) = \{A_{22}\}
R(S_{19}) = \{a_{1133}, a_{1331}\}\
I(S_{19}) = \varnothing
O(S_{19}) = \{A_{22}\}
S_{20}
C(S_{20}) = \{a_{1132}\}\
R(S_{20}) = \{a_{11}, a_{32}\}
I(S_{20}) = \{a_{11}, a_{32}\}\
O(S_{20}) = \{a_{1132}\}\
S_{21}
C(S_{21}) = \{a_{1231}\}\
R(S_{21}) = \{a_{12}, a_{31}\}\
I(S_{21}) = \{a_{12}, a_{31}\}
O(S_{21}) = \{a_{1231}\}\
S_{22}
C(S_{22}) = \{A_{23}\}\
R(S_{22}) = \{a_{1132}, a_{1231}\}\
I(S_{22}) = \emptyset
O(S_{22}) = \{A_{23}\}
S_{23}
C(S_{23}) = \{a_{1223}\}\
R(S_{23}) = \{a_{12}, a_{23}\}\
I(S_{23}) = \{a_{12}, a_{23}\}\
O(S_{23}) = \{a_{1223}\}\
S_{24}
C(S_{24}) = \{a_{1322}\}\
R(S_{24}) = \{a_{13}, a_{22}\}\
I(S_{24}) = \{a_{13}, a_{22}\}\
O(S_{24}) = \{a_{1322}\}\
```

```
S_{25}
C(S_{25}) = \{A_{31}\}
R(S_{25}) = \{a_{1223}, a_{1322}\}
I(S_{25}) = \emptyset
O(S_{25}) = \{A_{31}\}
S_{26}
C(S_{26}) = \{a_{1123}\}
R(S_{26}) = \{a_{11}, a_{23}\}
I(S_{26}) = \{a_{11}, a_{23}\}
O(S_{26}) = \{a_{1123}\}\
S_{27}
C(S_{27}) = \{a_{1321}\}
R(S_{27}) = \{a_{13}, a_{21}\}
I(S_{27}) = \{a_{13}, a_{21}\}\
O(S_{27}) = \{a_{1321}\}
S_{28}
C(S_{28}) = \{A_{32}\}
R(S_{28}) = \{a_{1123}, a_{1321}\}
I(S_{28}) = \varnothing
O(S_{28}) = \{A_{32}\}
S_{29}
C(S_{29}) = \{a_{1122}\}
R(S_{29}) = \{a_{11}, a_{22}\}\
I(S_{29}) = \{a_{11}, a_{22}\}
O(S_{29}) = \{a_{1122}\}\
S_{30}
C(S_{30}) = \{a_{1221}\}\
R(S_{30}) = \{a_{12}, a_{21}\}
I(S_{30}) = \{a_{12}, a_{21}\}\
O(S_{30}) = \{a_{1221}\}
S_{31}
C(S_{31}) = \{A_{33}\}
R(S_{31}) = \{a_{1122}, a_{1221}\}\
I(S_{31}) = \emptyset
O(S_{31}) = \{A_{33}\}
S_{32}
C(S_{32}) = \{a_{11}^{-1}\}\
R(S_{32}) = \{A_{11}, \Delta\}
I(S_{32}) = \emptyset
O(S_{32}) = \{a_{11}^{-1}\}
S_{33}
C(S_{33}) = \{a_{12}^{-1}\}\
R(S_{33}) = \{A_{21}, \Delta\}
I(S_{33}) = \varnothing
O(S_{33}) = \{a_{12}^{-1}\}\
S_{34}
C(S_{34}) = \{a_{13}^{-1}\}\
R(S_{34}) = \{A_{31}, \Delta\}
I(S_{34}) = \varnothing
O(S_{34}) = \{a_{13}^{-1}\}
S_{35}
C(S_{35}) = \{a_{21}^{-1}\}
R(S_{35}) = \{A_{12}, \Delta\}
I(S_{35}) = \emptyset
O(S_{35}) = \{a_{21}^{-1}\}
S_{36}
C(S_{36}) = \{a_{22}^{-1}\}\
R(S_{36}) = \{A_{22}, \Delta\}
I(S_{36}) = \emptyset
O(S_{36}) = \{a_{22}^{-1}\}
S_{37}
```

```
C(S_{37}) = \{a_{23}^{-1}\}\
R(S_{37}) = \{A_{32}, \Delta\}
I(S_{37}) = \emptyset
O(S_{37}) = \{a_{23}^{-1}\}
S_{38}
C(S_{38}) = \{a_{31}^{-1}\}\
R(S_{38}) = \{A_{13}, \Delta\}
I(S_{38}) = \emptyset
O(S_{38}) = \{a_{31}^{-1}\}
S_{39}
C(S_{39}) = \{a_{32}^{-1}\}\
R(S_{39}) = \{A_{23}, \Delta\}
I(S_{39}) = \emptyset
O(S_{39}) = \{a_{32}^{-1}\}\
S_{40}
C(S_{40}) = \{a_{33}^{-1}\}\
R(S_{40}) = \{A_{33}, \Delta\}
I(S_{40}) = \varnothing
O(S_{40}) = \{a_{33}^{-1}\}\
C(\bar{\bar{y}}_1) = \{a_{2233}, a_{2332}\}\
R(\bar{\bar{y}}_1) = \{a_{22}, a_{33}, a_{23}, a_{32}\}
I(\bar{y}_1) = \{a_{22}, a_{33}, a_{23}, a_{32}\}
O(\bar{y}_1) = \{a_{2233}, a_{2332}\}
C(\bar{y}_1) = \{a_{2233}, a_{2332}, A_{11}\}\
R(\bar{y}_1) = \{a_{22}, a_{33}, a_{23}, a_{32}, a_{2233}, a_{2332}\}
I(\bar{y}_1) = \{a_{22}, a_{33}, a_{23}, a_{32}, a_{2233}, a_{2332}\}
O(\bar{y}_1) = \{a_{2233}, a_{2332}, A_{11}\}
\bar{\bar{y}}_2
C(\bar{\bar{y}}_2) = \{a_{2133}, a_{2331}\}\
R(\bar{y}_2) = \{a_{21}, a_{33}, a_{23}, a_{31}\}\
I(\bar{y}_2) = \{a_{21}, a_{33}, a_{23}, a_{31}\}
O(\bar{y}_2) = \{a_{2133}, a_{2331}\}\
C(\bar{y}_2) = \{a_{2133}, a_{2331}, A_{12}\}\
R(\bar{y}_2) = \{a_{21}, a_{33}, a_{23}, a_{31}, a_{2133}, a_{2331}\}
I(\bar{y}_2) = \{a_{21}, a_{33}, a_{23}, a_{31}, a_{2133}, a_{2331}\}
O(\bar{y}_2) = \{a_{2133}, a_{2331}, A_{12}\}
C(\bar{\bar{y}}_3) = \{a_{2132}, a_{2232}\}\
R(\bar{y}_3) = \{a_{21}, a_{32}, a_{22}\}
I(\bar{y}_3) = \{a_{21}, a_{32}, a_{22}\}
O(\bar{y}_3) = \{a_{2132}, a_{2232}\}\
\bar{y}_3
C(\bar{y}_3) = \{a_{2132}, a_{2232}, A_{13}\}\
R(\bar{y}_3) = \{a_{21}, a_{32}, a_{22}, a_{2132}, a_{2232}\}
I(\bar{y}_3) = \{a_{21}, a_{32}, a_{22}, a_{2132}, a_{2232}\}
O(\bar{y}_3) = \{a_{2132}, a_{2232}, A_{13}\}\
C(\bar{y}_4) = \{aA_{1111}, aA_{1212}, aA_{1313}\}
R(\bar{y}_4) = \{a_{11}, A_{11}, a_{12}, A_{12}, a_{13}, A_{13}\}\
I(\bar{y}_4) = \{a_{11}, a_{12}, a_{13}\}
O(\bar{y}_4) = \{aA_{1111}, aA_{1212}, aA_{1313}\}\
C(\bar{y}_5) = \{a_{2233}, a_{2332}, A_{11}, a_{2133}, a_{2331}, A_{12}, a_{2132}, a_{2232}, A_{13}\}
R(\bar{\bar{y}}_5) = \{a_{22}, a_{33}, a_{23}, a_{32}, a_{2233}, a_{2332}, a_{21}, a_{31}, a_{2133}, a_{2331}, a_{2132}, a_{2232}\}
I(\bar{y}_5) = \{a_{22}, a_{33}, a_{23}, a_{32}, a_{2233}, a_{2332}, a_{21}, a_{31}, a_{2133}, a_{2331}, a_{2132}, a_{2232}\}
O(\bar{y}_5) = \{a_{2233}, a_{2332}, A_{11}, a_{2133}, a_{2331}, A_{12}, a_{2132}, a_{2232}, A_{13}\}
C(\bar{y}_4) = \{a_{2233}, a_{2332}, A_{11}, a_{2133}, a_{2331}, A_{12}, a_{2132}, a_{2232}, A_{13}, aA_{1111}, aA_{1212}, aA_{1313}, \Delta\}
```

```
R(\bar{y}_4) = \{a_{22}, a_{33}, a_{23}, a_{32}, a_{2233}, a_{2332}, a_{21}, a_{31}, a_{2133}, a_{2331}, a_{2132}, a_{2232}, a_{11}, A_{11}, a_{12}, A_{12}, a_{13}, A_{13}, aA_{1111}, aA_{1212}, aA_{1
aA_{1313}
I(\bar{y}_4) = \{a_{22}, a_{33}, a_{23}, a_{23}, a_{2233}, a_{2332}, a_{21}, a_{31}, a_{2133}, a_{2331}, a_{2132}, a_{2232}, a_{11}, A_{11}, a_{12}, A_{12}, a_{13}, A_{13}, aA_{1111}, aA_{1212}, aA_{1313}\}
O(\bar{y}_4) = \{a_{2233}, a_{2332}, A_{11}, a_{2133}, a_{2331}, A_{12}, a_{2132}, a_{2232}, A_{13}, aA_{1111}, aA_{1212}, aA_{1313}, \Delta\}
C(\bar{y}_6) = \{a_{1233}, a_{1332}\}\
R(\bar{y}_6) = \{a_{12}, a_{33}, a_{13}, a_{32}\}
I(\bar{y}_6) = \{a_{12}, a_{33}, a_{13}, a_{32}\}
O(\bar{y}_6) = \{a_{1233}, a_{1332}\}
C(\bar{y}_5) = \{a_{1233}, a_{1332}, A_{21}\}
R(\bar{y}_5) = \{a_{12}, a_{33}, a_{13}, a_{32}, a_{1233}, a_{1332}\}
I(\bar{y}_5) = \{a_{12}, a_{33}, a_{13}, a_{32}, a_{1233}, a_{1332}\}
O(\bar{y}_5) = \{a_{1233}, a_{1332}, A_{21}\}
\bar{y}_7
C(\bar{y}_7) = \{a_{1133}, a_{1331}\}
R(\bar{y}_7) = \{a_{11}, a_{33}, a_{13}, a_{31}\}\
I(\bar{\bar{y}}_7) = \{a_{11}, a_{33}, a_{13}, a_{31}\}\
O(\bar{y}_7) = \{a_{1133}, a_{1331}\}
C(\bar{y}_6) = \{a_{1133}, a_{1331}, A_{22}\}\
R(\bar{y}_6) = \{a_{11}, a_{33}, a_{13}, a_{31}, a_{1133}, a_{1331}\}
I(\bar{y}_6) = \{a_{11}, a_{33}, a_{13}, a_{31}, a_{1133}, a_{1331}\}
O(\bar{y}_6) = \{a_{1133}, a_{1331}, A_{22}\}
C(\bar{y}_8) = \{a_{1132}, a_{1231}\}
R(\bar{y}_8) = \{a_{11}, a_{32}, a_{12}, a_{31}\}
I(\bar{y}_8) = \{a_{11}, a_{32}, a_{12}, a_{31}\}
O(\bar{y}_8) = \{a_{1132}, a_{1231}\}
\bar{y}_7
C(\bar{y}_7) = \{a_{1132}, a_{1231}, A_{23}\}\
 R(\bar{y}_7) = \{a_{11}, a_{32}, a_{12}, a_{31}, a_{1132}, a_{1231}\}
I(\bar{y}_7) = \{a_{11}, a_{32}, a_{12}, a_{31}, a_{1132}, a_{1231}\}
O(\bar{y}_7) = \{a_{1132}, a_{1231}, A_{23}\}\
C(\bar{\bar{y}}_9) = \{a_{1223}, a_{1322}\}\
R(\bar{y}_9) = \{a_{12}, a_{23}, a_{13}, a_{22}\}\
I(\bar{y}_9) = \{a_{12}, a_{23}, a_{13}, a_{22}\}
O(\bar{y}_9) = \{a_{1223}, a_{1322}\}
C(\bar{y}_8) = \{a_{1223}, a_{1322}, A_{31}\}\
R(\bar{y}_8) = \{a_{12}, a_{23}, a_{13}, a_{22}, a_{1223}, a_{1322}\}
I(\bar{y}_8) = \{a_{12}, a_{23}, a_{13}, a_{22}, a_{1223}, a_{1322}\}
O(\bar{y}_8) = \{a_{1223}, a_{1322}, A_{31}\}\
\bar{\bar{y}}_{10}
C(\bar{\bar{y}}_{10}) = \{a_{1123}, a_{1321}\}\
 R(\bar{y}_{10}) = \{a_{11}, a_{23}, a_{13}, a_{21}\}\
I(\bar{y}_{10}) = \{a_{11}, a_{23}, a_{13}, a_{21}\}
O(\bar{y}_{10}) = \{a_{1123}, a_{1321}\}\
C(\bar{y}_9) = \{a_{1123}, a_{1321}, A_{32}\}\
R(\bar{y}_9) = \{a_{11}, a_{23}, a_{13}, a_{21}, a_{1123}, a_{1321}\}
I(\bar{y}_9) = \{a_{11}, a_{23}, a_{13}, a_{21}, a_{1123}, a_{1321}\}
O(\bar{y}_9) = \{a_{1123}, a_{1321}, A_{32}\}\
\bar{y}_{11}
C(\bar{\bar{y}}_{11}) = \{a_{1122}, a_{1221}\}
R(\bar{\bar{y}}_{11}) = \{a_{11}, a_{22}, a_{12}, a_{21}\}\
I(\bar{y}_{11}) = \{a_{11}, a_{22}, a_{12}, a_{21}\}\
O(\bar{y}_{11}) = \{a_{1122}, a_{1221}\}
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 $C(\bar{y}_{10}) = \{a_{1122}, a_{1221}, A_{33}\}\$

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R(\bar{y}_{10}) = \{a_{11}, a_{22}, a_{12}, a_{21}, a_{1122}, a_{1221}\}\
 I(\bar{y}_{10}) = \{a_{11}, a_{22}, a_{12}, a_{21}, a_{1122}, a_{1221}\}
O(\bar{y}_{10}) = \{a_{1122}, a_{1221}, A_{33}\}
\overset{\circ}{C}(\bar{\bar{y}}_{12}) = \{a_{11}^{-1}, a_{12}^{-1}, a_{13}^{-1}, a_{21}^{-1}, a_{22}^{-1}, a_{23}^{-1}, a_{31}^{-1}, a_{32}^{-1}, a_{33}^{-1}\}
 R(\bar{\bar{y}}_{12}) = \{A_{11}, \Delta, A_{21}, A_{31}, A_{12}, A_{22}, A_{32}, A_{13}, A_{23}, A_{33}\}
 I(\bar{\bar{y}}_{12}) = \varnothing
O(\bar{\bar{y}}_{12}) = \{a_{11}^{-1}, a_{12}^{-1}, a_{13}^{-1}, a_{21}^{-1}, a_{22}^{-1}, a_{23}^{-1}, a_{31}^{-1}, a_{32}^{-1}, a_{33}^{-1}\}
C(\bar{y}_{13}) = \{a_{2233}, a_{2332}, A_{11}, a_{2133}, a_{2331}, A_{12}, a_{2132}, a_{2232}, A_{13}, aA_{1111}, aA_{1212}, aA_{1313}, \Delta, a_{1233}, a_{1332}, A_{21}, a_{1133}, a_{1331}, A_{1233}, a_{1332}, A_{1233}, a_{1332}, A_{1233}, a_{1332}, A_{1233}, a_{1332}, A_{1233}, a_{1332}, A_{1233}, a_{1333}, 
 A_{22}, a_{1132}, a_{1231}, A_{23}, a_{1223}, a_{1322}, A_{31}, a_{1123}, a_{1321}, A_{32}, a_{1122}, a_{1221}, A_{33}
 R(\bar{y}_{13}) = \{a_{22}, a_{33}, a_{23}, a_{32}, a_{2233}, a_{2332}, a_{21}, a_{31}, a_{2133}, a_{2331}, a_{2132}, a_{2232}, a_{11}, A_{11}, a_{12}, A_{12}, a_{13}, A_{131}, aA_{1111}, aA_{1212}, a
aA_{1313}, a_{1233}, a_{1332}, a_{1133}, a_{1331}, a_{1132}, a_{1231}, a_{1223}, a_{1322}, a_{1123}, a_{1321}, a_{1122}, a_{1221}
 I(\bar{y}_{13}) = \{a_{22}, a_{33}, a_{23}, a_{32}, a_{2233}, a_{2332}, a_{21}, a_{31}, a_{2133}, a_{2331}, a_{2132}, a_{2232}, a_{11}, A_{11}, a_{12}, A_{12}, a_{13}, A_{131}, aA_{1111}, aA_{1212}, a
 aA_{1313}, a_{1233}, a_{1332}, a_{1133}, a_{1331}, a_{1132}, a_{1231}, a_{1223}, a_{1322}, a_{1123}, a_{1321}, a_{1122}, a_{1221}
O(\bar{y}_{13}) = \{a_{2233}, a_{2332}, A_{11}, a_{2133}, a_{2331}, A_{12}, a_{2132}, a_{2232}, A_{13}, aA_{1111}, aA_{1212}, aA_{1313}, \Delta, a_{1233}, a_{1332}, A_{21}, a_{1133}, a_{1331}, A_{1233}, a_{1332}, A_{1233}, a_{1332}, A_{1233}, a_{1332}, A_{1233}, a_{1332}, A_{1233}, a_{1332}, A_{1233}, a_{1333}, 
 A_{22}, a_{1132}, a_{1231}, A_{23}, a_{1223}, a_{1322}, A_{31}, a_{1123}, a_{1321}, A_{32}, a_{1122}, a_{1221}, A_{33}
 C(\bar{y}_{11}) = \{a_{2233}, a_{2332}, A_{11}, a_{2133}, a_{2331}, A_{12}, a_{2132}, a_{2232}, A_{13}, aA_{1111}, aA_{1212}, aA_{1313}, \Delta, a_{1233}, a_{1332}, A_{21}, a_{1133}, a_{1331}, A_{22}, a_{1132}, a_{1231}, A_{23}, a_{1223}, a_{1322}, A_{31}, a_{1123}, a_{1321}, A_{32}, a_{1122}, a_{1221}, A_{33}, a_{11}^{-1}, a_{12}^{-1}, a_{13}^{-1}, a_{21}^{-1}, a_{22}^{-1}, a_{23}^{-1}, a_{31}^{-1}, a_{33}^{-1}, a_{33}^{-1}\} 
R(\bar{y}_{11}) = \{a_{22}, a_{33}, a_{23}, a_{32}, a_{2233}, a_{2332}, a_{21}, a_{31}, a_{2133}, a_{2331}, a_{2132}, a_{2232}, a_{11}, A_{11}, a_{12}, A_{12}, a_{13}, A_{1311}, aA_{1212}, 
aA_{1313}, a_{1233}, a_{1332}, a_{1133}, a_{1331}, a_{1331}, a_{1132}, a_{1231}, a_{1223}, a_{1322}, a_{1123}, a_{1321}, a_{1122}, a_{1221}, \Delta, A_{21}, A_{31}, A_{22}, A_{32}, A_{23}, A_{33}\}
 I(\bar{y}_{11}) = \{a_{22}, a_{33}, a_{23}, a_{32}, a_{2233}, a_{2332}, a_{21}, a_{31}, a_{2133}, a_{2331}, a_{2132}, a_{2232}, a_{11}, A_{11}, a_{12}, A_{12}, a_{13}, A_{131}, aA_{1111}, aA_{1212}, a
aA_{1313}, a_{1233}, a_{1332}, a_{1133}, a_{1331}, a_{1331}, a_{1132}, a_{1231}, a_{1223}, a_{1322}, a_{1123}, a_{1321}, a_{1122}, a_{1221}, \Delta, A_{21}, A_{31}, A_{22}, A_{32}, A_{23}, A_{33}\}
O(\bar{y}_{11}) = \{a_{2233}, a_{2332}, A_{11}, a_{2133}, a_{2331}, A_{12}, a_{2132}, a_{2232}, A_{13}, aA_{1111}, aA_{1212}, aA_{1313}, \Delta, a_{1233}, a_{1332}, A_{21}, a_{1133}, a_{1331}, A_{22}, a_{1132}, a_{1231}, A_{23}, a_{1223}, a_{1322}, A_{31}, a_{1123}, a_{1321}, A_{32}, a_{1122}, a_{1221}, A_{33}, a_{11}^{-1}, a_{12}^{-1}, a_{13}^{-1}, a_{21}^{-1}, a_{23}^{-1}, a_{31}^{-1}, a_{32}^{-1}, a_{33}^{-1}\}
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