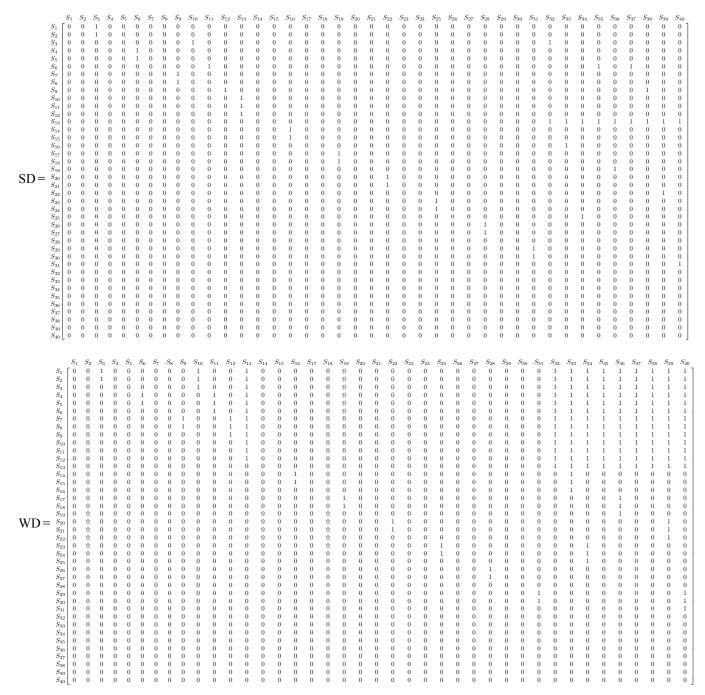
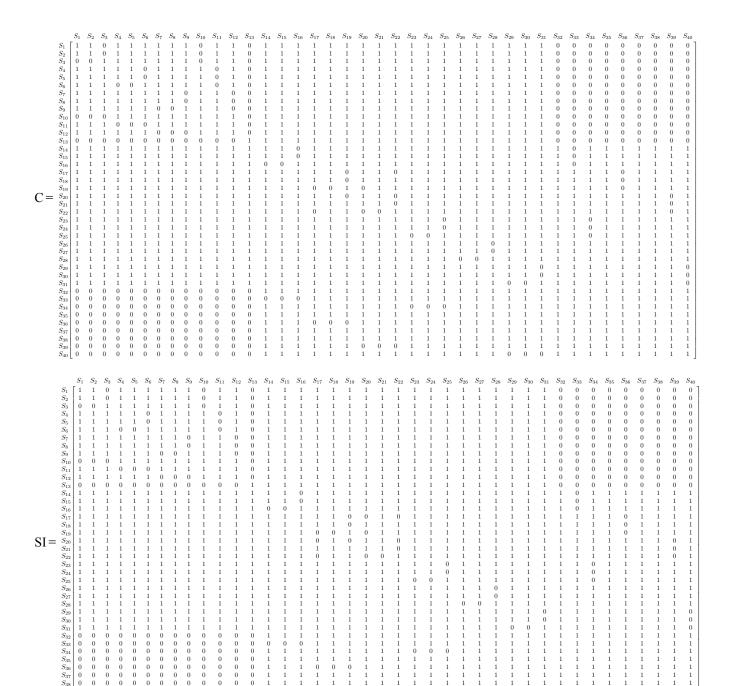
ПРИЛОЖЕНИЕ А

Итерация №1





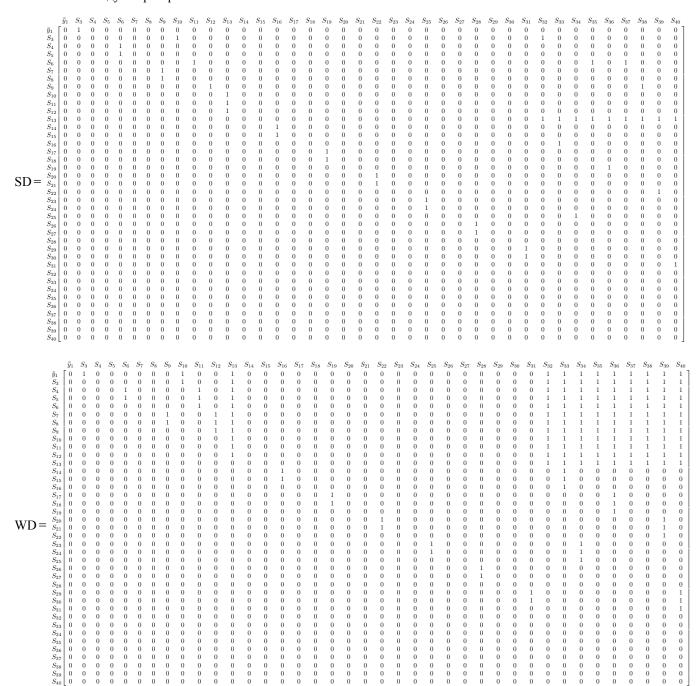
Проверка условия приводимости программы к ППФ (5 из 579):

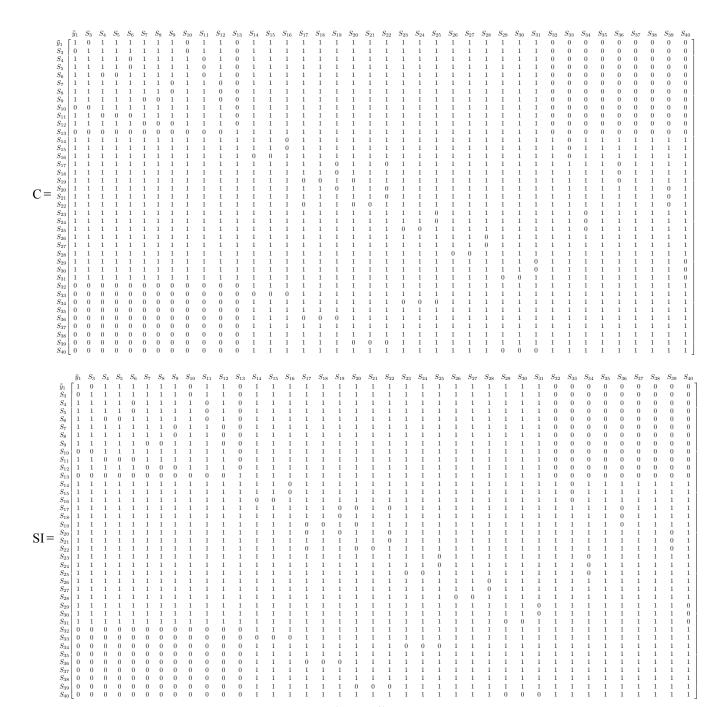
```
1)S_1 \nrightarrow S_4
2)S_3
E(S_1) = \{S_3, S_{10}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_4) = \{S_6, S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
N_1(S_1, S_4) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35},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

 $N_2(S_1, S_5) = \{S_3, S_{10}, S_6, S_{11}\}$

```
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\}
```

3





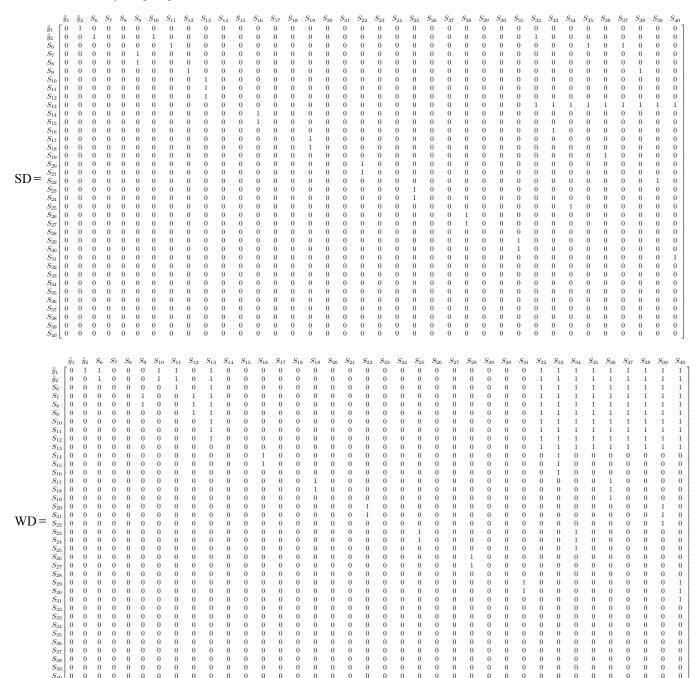
Проверка условия приводимости программы к ППФ (5 из 553):

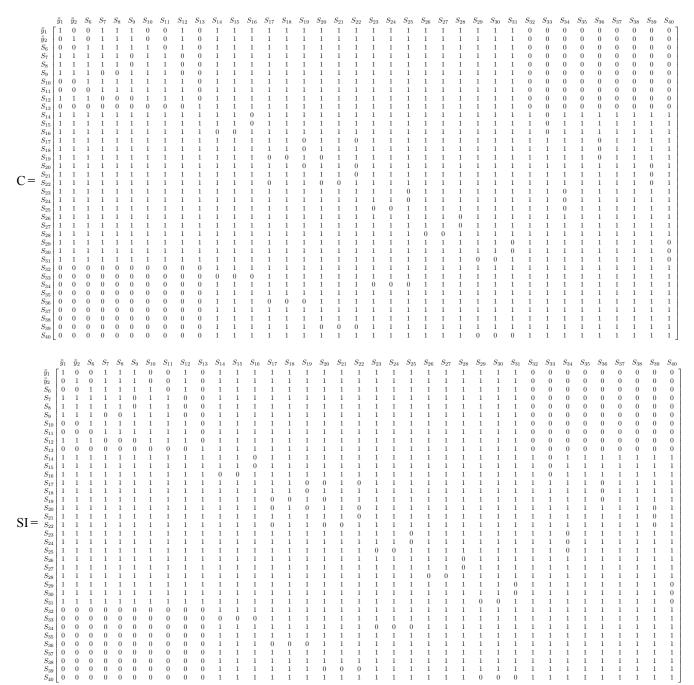
```
При указан при указа
```

 $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(\bar{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{y}_1, S_6) — выполняется
N_1(ar{ar{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(\bar{y}_1, S_7) — выполняется
N_1(\bar{\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(ar{ar{y}}_1, S_8) — выполняется
N_1(\bar{\bar{y}}_1,S_8)\subseteq E(S_3) — выполняется
выполняется
На текущей итерации был выделен паралллельный групповой оператор \bar{y}_2 = \{S_3, S_4, S_5\}
```

6





Проверка условия приводимости программы к ППФ (5 из 500):

```
Проверка условия приводимости программы к ППФ (5 из 500): 1)\bar{y}_1 \nrightarrow S_7 2)\bar{y}_2 E(\bar{y}_1) = \{\bar{y}_2, S_6, S_{10}, S_{11}, 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) = \{\bar{y}_2, S_6, S_{10}, S_{11}, S_9, S_{12}\} E(\bar{y}_2) = \{S_6, S_{10}, 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, S_7) - \text{выполняется} N_1(\bar{y}_1, S_7) \subseteq E(\bar{y}_2) - \text{выполняется} выполняется выполняется 1)\bar{y}_1 \nrightarrow S_8 2)\bar{y}_2 E(\bar{y}_1) = \{\bar{y}_2, S_6, S_{10}, S_{11}, 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}\}
```

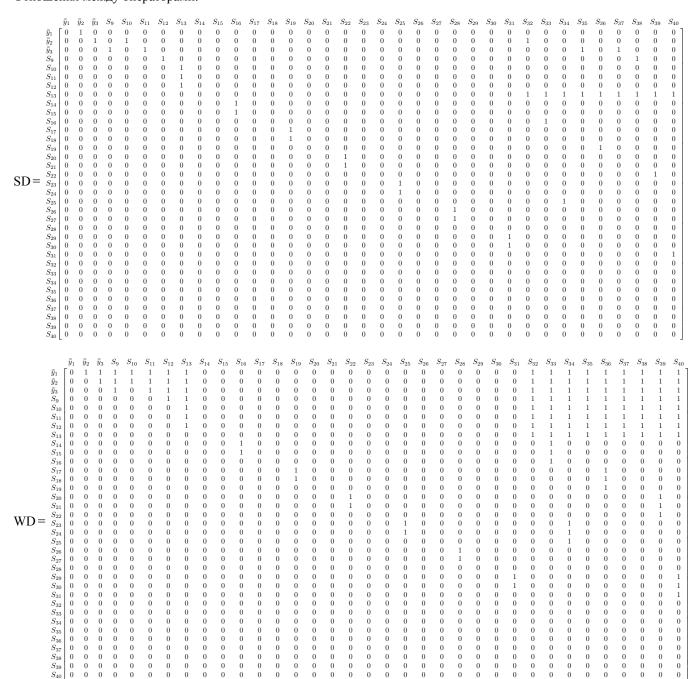
 $N_1(\bar{\bar{y}}_1, S_8) = \{S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}$

 $E(\bar{y}_2) = \{S_6, S_{10}, S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}$

 $N_2(\bar{y}_1, S_8) = {\bar{y}_2, S_6, S_{10}, S_{11}, S_9, S_{12}}$

```
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_8) — выполняется
N_1(\bar{y}_1, S_8) \subseteq E(\bar{y}_2) — выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_9
2)\bar{y}_2
E(\bar{y}_1) = {\bar{y}_2, S_6, S_{10}, S_{11}, 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) = {\bar{y}_2, S_6, S_{10}, S_{11}, S_{12}}
E(\bar{y}_2) = \{S_6, S_{10}, S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_9) — выполняется
N_1(ar{ar{y}}_1,S_9)\subseteq E(ar{ar{y}}_2) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{12}
2)\bar{y}_2
E(\bar{y}_1) = {\bar{y}_2, S_6, S_{10}, S_{11}, 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}) = {\bar{y}_2, S_6, S_{10}, S_{11}}
E(\bar{y}_2) = \{S_6, S_{10}, S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{12}) — выполняется
N_1(\bar{y}_1, S_{12}) \subseteq E(\bar{y}_2) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{14}
2)\bar{\bar{y}}_2
E(\bar{y}_1) = {\bar{y}_2, S_6, S_{10}, S_{11}, 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}_2, S_6, S_{10}, S_{11}, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{16}}
E(\bar{y}_2) = \{S_6, S_{10}, S_{11}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{14}) — выполняется
N_1(\bar{y}_1,S_{14})\subseteq E(\bar{y}_2) – выполняется
выполняется
```

На текущей итерации был выделен паралллельный групповой оператор $\bar{y}_3 = \{S_6, S_7, S_8\}$

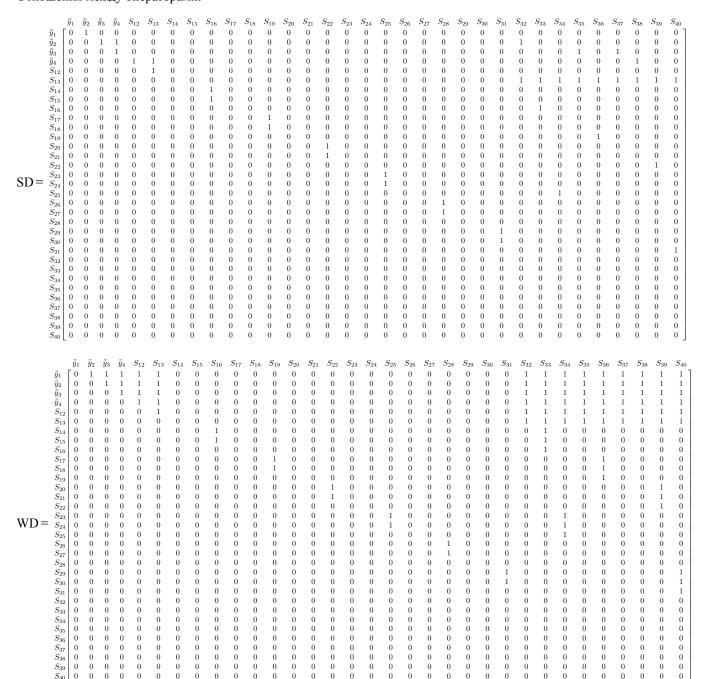


```
SI =
```

```
Проверка условия приводимости программы к ППФ (5 из 449):
1)\bar{\bar{y}}_1 \nrightarrow S_{14}
2)\bar{\bar{y}}_2
E(\bar{\bar{y}}_1) = \{\bar{\bar{y}}_2, \bar{\bar{y}}_3, S_9, S_{10}, S_{11}, S_{12}, 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}_2, \bar{y}_3, S_9, S_{10}, S_{11}, S_{12}, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{16}\}
E(\bar{y}_2) = \{\bar{y}_3, S_9, S_{10}, S_{11}, 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}}_2 \in N_2(ar{ar{y}}_1, S_{14}) — выполняется
N_1(\bar{y}_1, S_{14}) \subseteq E(\bar{y}_2) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{15}
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, S_9, S_{10}, S_{11}, S_{12}, 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{y}_2, \bar{y}_3, S_9, S_{10}, S_{11}, S_{12}, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{16}\}
```

 $E(\bar{y}_2) = \{\bar{y}_3, S_9, S_{10}, S_{11}, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}$

```
\bar{\bar{y}}_2 \in N_2(\bar{\bar{y}}_1, S_{15}) — выполняется
N_1(\bar{\bar{y}}_1, S_{15}) \subseteq E(\bar{\bar{y}}_2) — выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{16}
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, S_9, S_{10}, S_{11}, S_{12}, 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{y}_2, \bar{y}_3, S_9, S_{10}, S_{11}, S_{12}, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{\bar{y}}_2) = \{\bar{\bar{y}}_3, S_9, S_{10}, S_{11}, 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}}_2 \in N_2(ar{ar{y}}_1, S_{16}) — выполняется
N_1(ar{ar{y}}_1,S_{16})\subseteq E(ar{ar{y}}_2) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{17}
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, S_9, S_{10}, S_{11}, S_{12}, 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{y}_2, \bar{y}_3, S_9, S_{10}, S_{11}, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}\}
E(\bar{y}_2) = \{\bar{y}_3, S_9, S_{10}, S_{11}, 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}}_2 \in N_2(ar{ar{y}}_1, S_{17}) — выполняется
N_1(\bar{y}_1, S_{17}) \subseteq E(\bar{y}_2) – выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{18}
2)\bar{\bar{y}}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, S_9, S_{10}, S_{11}, S_{12}, 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{y}_1, S_{18}) = \{S_{36}\}\
N_2(\bar{\bar{y}}_1,S_{18}) = \{\bar{\bar{y}}_2,\bar{\bar{y}}_3,S_9,S_{10},S_{11},S_{12},S_{13},S_{32},S_{33},S_{34},S_{35},S_{37},S_{38},S_{39},S_{40},S_{19}\}
E(\bar{y}_2) = {\bar{y}_3, S_9, S_{10}, S_{11}, 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}}_2 \in N_2(ar{ar{y}}_1, S_{18}) — выполняется
N_1(\bar{y}_1,S_{18})\subseteq E(\bar{y}_2) – выполняется
выполняется
На текущей итерации был выделен паралллельный групповой оператор \bar{y}_4 = \{S_9, S_{10}, S_{11}\}
```



```
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}
                                                                                                                                                                                                                        0

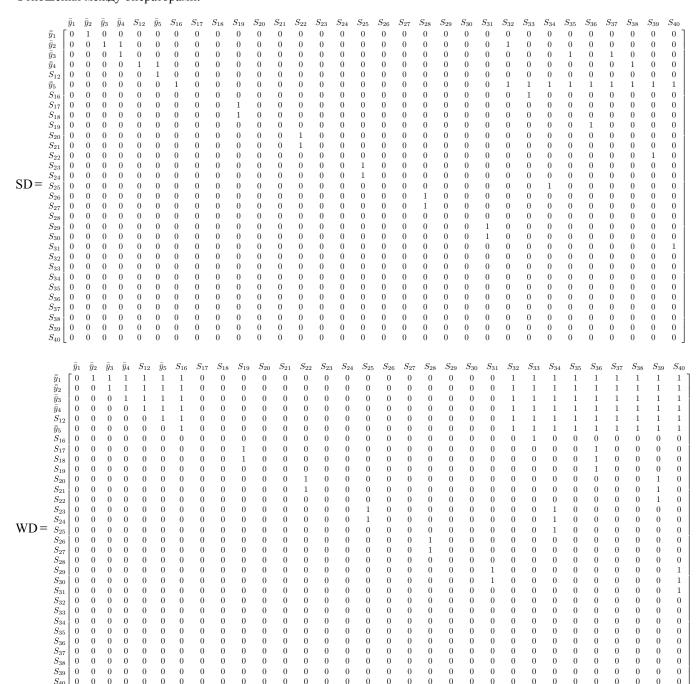
    \begin{array}{cccc}
      0 & 0 & 0 \\
      0 & 0 & 0 \\
      0 & 0 & 0 \\
      0 & 0 & 0 \\
    \end{array}

                                                           0
0
0
                                                           0 \\ 0
Проверка условия приводимости программы к ППФ (5 из 410):
1)\bar{\bar{y}}_1 \nrightarrow S_{14}
```

```
Проверка условия приводимости программы к ППФ (5 из 410): 1)\bar{y}_1 \nrightarrow S_{14} 2)\bar{y}_2 E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, 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}_2, \bar{y}_3, \bar{y}_4, S_{12}, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{16}\} E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, 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, S_{14}) - \text{выполняется} N_1(\bar{y}_1, S_{14}) \subseteq E(\bar{y}_2) - \text{выполняется} выполняется выполняется 1)\bar{y}_1 \nrightarrow S_{15} 2)\bar{y}_2 E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, 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{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{16}\}
```

 $E(\bar{y}_2) = {\bar{y}_3, \bar{y}_4, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}}$

```
\bar{\bar{y}}_2 \in N_2(\bar{\bar{y}}_1, S_{15}) — выполняется
N_1(\bar{\bar{y}}_1, S_{15}) \subseteq E(\bar{\bar{y}}_2) — выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{16}
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, 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{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, S_{13}, S_{32}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_2) = {\bar{y}_3, \bar{y}_4, 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}}_2 \in N_2(ar{ar{y}}_1, S_{16}) — выполняется
N_1(\bar{y}_1, S_{16}) \subseteq E(\bar{y}_2) – выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{17}
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, 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{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, 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}}_2 \in N_2(ar{ar{y}}_1, S_{17}) — выполняется
N_1(\bar{y}_1, S_{17}) \subseteq E(\bar{y}_2) – выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{18}
2)\bar{\bar{y}}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, 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{y}_1, S_{18}) = \{S_{36}\}\
N_2(\bar{y}_1, S_{18}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, S_{13}, S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}\}
E(\bar{y}_2) = {\bar{y}_3, \bar{y}_4, 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}}_2 \in N_2(ar{ar{y}}_1, S_{18}) — выполняется
N_1(ar{ar{y}}_1,S_{18})\subseteq E(ar{ar{y}}_2) — выполняется
выполняется
На текущей итерации был выделен паралллельный групповой оператор \bar{\bar{y}}_5 = \{S_{13}, S_{14}, S_{15}\}
```



```
\bar{\bar{y}}_1
                                                                                         S_{20}
                                                                                                                          S_{24} S_{25} S_{26}
                                                                                                                                                                                    S_{31}
                                                                                                                                                                                            S_{32}
                                                                                                                                                                                                     S_{33}
                                                                                                                                                                                                             S_{34}
                                                                                                                                                                                                                     S_{35}
                                                                                  S_{19}
                                                                                                  S_{21} S_{22}
                                                                                                                 S_{23}
                                                                                                                                                   S_{27}
                                                                                                                                                           S_{28}
                                                                                                                                                                            S_{30}
C =
                                                          S_{16}
                                                                  S_{17}
                                                                          S_{18}
                                                                                   S_{19}
                                                                                           S_{20}
                                                                                                    S_{21}
                                                                                                                                    S_{25}
                                                                                                                                                                                     S_{31}
                                                                                                                                                                                             S_{32}
                                                                                                                                                                                                     S_{33}
                                                                                                                                                                                                                      S_{35}
                                           S_{12} \bar{y}_5
                                                                                                           S_{22}
                                                                                                                   S_{23}
                                                                                                                           S_{24}
                                                                                                                                                                             S_{30}
SI =
                                      0 \\ 0
                                             0
0
0
0
```

Проверка условия приводимости программы к ППФ (5 из 347):

```
1)\bar{\bar{y}}_1 \nrightarrow S_{17}
2)\bar{\bar{y}}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, S_{16}, 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{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, S_{16}, S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, S_{16}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{17}) — выполняется
N_1(\bar{y}_1, S_{17}) \subseteq E(\bar{y}_2) – выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{18}
2)\bar{\bar{y}}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, S_{16}, 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}_1, S_{18}) = \{S_{36}\}\
N_2(\bar{y}_1, S_{18}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, S_{16}, S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}, S_{19}\}
```

0 0

```
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, S_{16}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{18}) — выполняется
N_1(\bar{\bar{y}}_1,S_{18})\subseteq E(\bar{\bar{y}}_2) – выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{19}
2)\bar{y}_2
E(\bar{\bar{y}}_1) = \{\bar{\bar{y}}_2, \bar{\bar{y}}_3, \bar{\bar{y}}_4, S_{12}, \bar{\bar{y}}_5, S_{16}, 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}_1, S_{19}) = \{S_{36}\}\
N_2(\bar{y}_1, S_{19}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, S_{16}, S_{32}, S_{33}, S_{34}, S_{35}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, S_{16}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{19}) — выполняется
N_1(\bar{y}_1, S_{19}) \subseteq E(\bar{y}_2) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{20}
2)\bar{\bar{y}}_2
E(\bar{\bar{y}}_1) = \{\bar{\bar{y}}_2, \bar{\bar{y}}_3, \bar{\bar{y}}_4, S_{12}, \bar{\bar{y}}_5, S_{16}, 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}_1, S_{20}) = \{S_{39}\}\
N_2(\bar{y}_1, S_{20}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, S_{16}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}, S_{22}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, S_{16}, 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, S_{20}) — выполняется
N_1(\bar{y}_1, S_{20}) \subseteq E(\bar{y}_2) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{21}
2)\bar{\bar{y}}_2
E(\bar{\bar{y}}_1) = \{\bar{\bar{y}}_2, \bar{\bar{y}}_3, \bar{\bar{y}}_4, S_{12}, \bar{\bar{y}}_5, S_{16}, 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}_1, S_{21}) = \{S_{39}\}\
N_2(\bar{\bar{y}}_1,S_{21}) = \{\bar{\bar{y}}_2,\bar{\bar{y}}_3,\bar{\bar{y}}_4,S_{12},\bar{\bar{y}}_5,S_{16},S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{40},S_{22}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, S_{16}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{21}) — выполняется
N_1(\bar{\bar{y}}_1, S_{21}) \subseteq E(\bar{\bar{y}}_2) — выполняется
выполняется
На текущей итерации был выделен паралллельный групповой оператор \bar{\bar{y}}_6 = \{S_{16}, S_{17}, S_{18}\}
```

		$\bar{\bar{y}}_1$	$\bar{\bar{y}}_2$	$\bar{\bar{y}}_3$	$\bar{ar{y}}_4$	S_{12}	$\bar{ar{y}}_5$	$\bar{ar{y}}_6$	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}	
	$ar{ar{y}}_1$	0	1	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	0]	
	$\bar{\bar{y}}_2$	0	0	1	1	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	
	$\bar{\bar{y}}_3$	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	
	$\bar{\bar{y}}_4$	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
	S_{12}	0	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	0	0	
	$\bar{ar{y}}_5$	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	
	$\bar{\bar{y}}_6$	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	1	0	0	0	0	
	S_{20}	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	0	0	0	
	S_{21}	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	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	0	0	0	0	1	0	
	S_{23}	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	0	0	0	
	S_{24}	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	0	0	0	
	S_{25}	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	0	0	0	
SD =	S_{26}	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	0	0	0	
	S_{27}	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	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	0	0	0	0	0	0	0	0	
	S_{29}	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	0	0	0	
	S_{30}	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	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	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	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	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	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	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	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	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	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	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	0	0	0	

		$\bar{\bar{y}}_1$	$\bar{\bar{y}}_2$	$\bar{\bar{y}}_3$	$ar{ar{y}}_4$	S_{12}	$\bar{\bar{y}}_5$	$\bar{\bar{y}}_6$	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}
	$\bar{ar{y}}_1$	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	$ar{ar{y}}_2$	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	$\bar{\bar{y}}_3$	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	\bar{y}_4	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	S_{12}	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	$\bar{ar{y}}_5$	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	$\bar{\bar{y}}_6$	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	0	1	0	0	0	0
	S_{20}	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	0	1	0
	S_{21}	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	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	0	0	0	0	1	0
	S_{23}	0	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	0	0	0
	S_{24}	0	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	0	0	0
	S_{25}	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	0	0	0
WD =	S_{26}	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	0	0	0
	S_{27}	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	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	0	0	0	0	0	0	0	0
	S_{29}	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	0	0	1
	S_{30}	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	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	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	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	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	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	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	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	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	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	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	0	0	0

		$\bar{\bar{y}}_1$	$\bar{ar{y}}_2$	$\bar{\bar{y}}_3$	$ar{ar{y}}_4$,	S_{12}	$\bar{ar{y}}_5$	$ar{ar{y}}_6$	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}	
	$\bar{\bar{y}}_1$	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0]	
	$\bar{\bar{y}}_2$	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	ĺ
	$\begin{array}{c c} \bar{y}_2 \\ \bar{y}_3 \\ \bar{y}_4 \end{array}$	0	0	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	ĺ
	$\bar{\bar{y}}_4$	0	0	0	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	ĺ
	S_{12}	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	ĺ
	$\bar{\bar{y}}_5$	0	0	0	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	ĺ
	$\bar{\bar{y}}_6$	0	0	0	0	0	0	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	ĺ
	S_{19}	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	ĺ
	S_{20}	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	ĺ
	S_{21}	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	0	1	ĺ
	S_{22}	1	1	1	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	ĺ
	S_{23}	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	ĺ
	S_{24}	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	ĺ
	S_{25}	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	ĺ
C =	S_{26}	1	1	1	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	ĺ
	S_{27}	1	1	1	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	ĺ
	S_{28}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	ĺ
	S_{29}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	ĺ
	S_{30}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	ĺ
	S_{31}	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	ĺ
	S_{32}	-	-	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	ĺ
	S_{33}	-	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	ĺ
	S_{34}		0	0	0	0	0	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	ĺ
	S_{35}		0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	ĺ
	S_{36}	-	0		0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	ĺ
	S_{37}		0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	ĺ
	S_{38}		0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	S_{39}	0			0	0	0	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	S_{40}	- 0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1]	ĺ

```
0
        \bar{\bar{y}}_1
                                                            1
                                                                  1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                                1
                                                                                                           1
                 0 1 0 0
                                                                                                                             0
                                                                                                                                   0
                                                                                                                                         0
                                                                                                                                               0
                                                                                                                                                     0
                                                0
                                                      1
                                                                              1
                                                                                    1
                                                                                               1
                                                                                                                 1
                                                                                                                       1
        \bar{y}_2
                                                            1
                                                                  1
                                                                        1
                                                                                          1
                                                                                                     1
                                                                                                           1
                                                                                                                             0
                                                                                                                                   0
                                                                                                                                         0
                                                                                                                                               0
        \bar{y}_3
                 0 \ 0 \ 1
                             0
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                               1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                                                     0
                                                                                                                                                           0
                                                                                                                                                                 0
                 0 \ 0 \ 0
                             1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                               1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             0
                                                                                                                                   0
                                                                                                                                         0
                                                                                                                                               0
                                                                                                                                                     0
                                                                                                                                                           0
                                                                                                                                                                 0
        \bar{y}_4
                                                                                                                             0
                                                                                                                                   0
                                                                                                                                         0
                                                                                                                                               0
                                                                                                                                                     0
        S_{12}
                 0 0 0 0
                                                      1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                                1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                 0 0 0 0
                                                      1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                               1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             0
                                                                                                                                   0
                                                                                                                                         0
                                                                                                                                               0
                                                                                                                                                     0
                                                                                                                                                           0
                                                                                                                                                                0
        \bar{\bar{y}}_5
                                                      0
                                                            1
                                                                  0
                                                                                                                                   0
                                                                                                                                               1
                                                                                                                                                     0
                        0
                            0
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                                1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                         1
                                                                                                                                                           1
        \bar{\bar{y}}_6
        S_{19}
                                                                                                                                               1
                                                1
                                                      0
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                                1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         1
                                                                                                                                                     0
                                                                                                                                                           1
                                                                                                                                                                 1
        S_{20}
                                                0
                                                      1
                                                            1
                                                                  0
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                                1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         1
                                                                                                                                               1
                                                                                                                                                     1
                                                                                                                                                                 1
        S_{21}
                                                1
                                                      1
                                                            1
                                                                  0
                                                                        1
                                                                              1
                                                                                    1
                                                                                                1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         1
                                                                                                                                               1
                                                                                                                                                     1
                                                                                                                                                           1
                                                                                                                                                                 1
                                                                                          1
                                                                                                     1
                                                                                                           1
                                                1
                                                      0
                                                            0
                                                                        1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                               1
                                                                                                                                                                 1
        S_{22}
                 1
                                       1
                                                                  1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                                1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                                         1
                                                                                                                                                     1
                                                                                                                                                           1
        S_{23}
                             1
                                  1
                                       1
                                                1
                                                      1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                   0
                                                                                          1
                                                                                                1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         0
                                                                                                                                               1
                                                                                                                                                     1
                                                                                                                                                           1
                                                                                                                                                                 1
                                           1
        S_{24}
                 1
                         1
                             1
                                  1
                                       1
                                                1
                                                      1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                   0
                                                                                         1
                                                                                               1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         0
                                                                                                                                               1
                                                                                                                                                     1
                                                                                                                                                           1
                                                                                                                                                                 1
                                           1
        S_{25}
                         1
                             1
                                  1
                                       1
                                           1
                                                1
                                                      1
                                                            1
                                                                  1
                                                                        0
                                                                              0
                                                                                    1
                                                                                          1
                                                                                               1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         0
                                                                                                                                               1
                                                                                                                                                     1
                                                                                                                                                           1
SI = S_{26}
                                                      1
                                                                                                     0
                 1 1 1 1
                                                1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                                1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         1
                                                                                                                                               1
                                                                                                                                                     1
        S_{27}
                 1 1 1 1
                                                      1
                                                            1
                                                                        1
                                                                                          1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
        S_{28}
                                                      1
                                                            1
                                                                        1
                                                                              1
                                                                                    1
                                                                                         0
                                                                                               0
                                                                                                                 1
                                                                                                                                   1
                                                                                                                                                     1
                 1 1 1
                             1
                                                1
                                                                  1
                                                                                                     1
                                                                                                           1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                         1
                                                                                                                                               1
                                                      1
                                                                                    1
                                                                                                                       0
        S_{29}
                 1
                     1 1
                             1
                                  1
                                                1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                          1
                                                                                               1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         1
                                                                                                                                               1
                                                                                                                                                     1
                                       1
                                           1
                                                                                                                       0
        S_{30}
                         1
                             1
                                                1
                                                      1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                               1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         1
                                                                                                                                               1
                                                                                                                                                     1
        S_{31}
                 1
                         1
                             1
                                  1
                                                1
                                                      1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                               1
                                                                                                     1
                                                                                                           0
                                                                                                                 0
                                                                                                                       1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         1
                                                                                                                                               1
                                                                                                                                                     1
                                       1
                 0 0 0 0
                                  0
                                                      1
                                                            1
                                                                                    1
                                                                                         1
                                                                                               1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         1
                                                                                                                                               1
                                                                                                                                                     1
        S_{32}
                                       0
                                                1
                                                                  1
                                                                        1
                                                                              1
                                                                                                     1
                                                                                                           1
                                                                                                                                                           1
                                                      1
                                                                                                                                   1
                                                                                                                                               1
                 0 0 0 0
                                  0
                                                1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                               1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                         1
                                                                                                                                                     1
        S_{33}
                                                      1
                                                            1
                                                                        0
                                                                              0
                                                                                   0
                                                                                          1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         1
                                                                                                                                               1
                                                                                                                                                     1
                                                                                                                                                           1
                                                                                                                                                                 1
        S_{34}
                 0 0 0 0
                                                1
                                                                  1
                                                                                                1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
        S_{35}
                                                      1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                                1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         1
                                                                                                                                               1
                                                                                                                                                     1
        S_{36}
                 0 0 0 0
                                 0
                                       0
                                                0
                                                      1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                                1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         1
                                                                                                                                               1
                                                                                                                                                     1
                                                                                                                                                           1
                                                                                                                                                                 1
                                                      1
        S_{37}
                 0 0 0 0
                                 0
                                       0
                                           1
                                                1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                               1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         1
                                                                                                                                               1
                                                                                                                                                     1
                                                                                                                                                           1
                                                                                                                                                                 1
        S_{38}
                 0 0 0 0
                                 0
                                       0
                                           1
                                                1
                                                      1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                    1
                                                                                          1
                                                                                               1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         1
                                                                                                                                               1
                                                                                                                                                     1
                                                                                                                                                           1
                                                                                                                                                                 1
                 0 0 0 0 0
                                                1
                                                      0
                                                            0
                                                                  0
                                                                        1
                                                                                    1
                                                                                         1
                                                                                               1
                                                                                                     1
                                                                                                           1
                                                                                                                 1
                                                                                                                       1
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                         1
                                                                                                                                               1
                                                                                                                                                     1
        S_{39}
                                       0 1
                                                                              1
                                                                                                                                                           1
                                                                                                                                                                 1
                                                                                   1
                                                                                               1
                                                                                                           0
                                                                                                                 0
                                                                                                                       0
                                                                                                                             1
                                                                                                                                   1
                                                                                                                                               1
        S_{40} \mid 0 \ 0 \ 0 \ 0 \ 0 \ 1
                                                1
                                                      1
                                                            1
                                                                  1
                                                                        1
                                                                              1
                                                                                         1
                                                                                                     1
                                                                                                                                         1
                                                                                                                                                     1
Проверка условия приводимости программы к ППФ (5 из 286):
1)\bar{y}_1 \nrightarrow S_{20}
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, 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}_1, S_{20}) = \{S_{39}\}\
N_2(\bar{y}_1, S_{20}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}, S_{22}\}
E(\bar{\bar{y}}_2) = \{\bar{\bar{y}}_3, \bar{\bar{y}}_4, S_{12}, \bar{\bar{y}}_5, \bar{\bar{y}}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{20}) — выполняется
N_1(\bar{\bar{y}}_1, S_{20}) \subseteq E(\bar{\bar{y}}_2) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{21}
2)\bar{\bar{y}}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, 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}_1, S_{21}) = \{S_{39}\}\
N_2(\bar{y}_1,S_{21}) = \{\bar{y}_2,\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{40},S_{22}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{21}) — выполняется
N_1(\bar{\bar{y}}_1,S_{21})\subseteq E(\bar{\bar{y}}_2) – выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{22}
2)\bar{y}_2
```

 $\bar{\bar{y}}_1 \, \bar{\bar{y}}_2 \, \bar{\bar{y}}_3 \, \bar{\bar{y}}_4 \, S_{12} \, \bar{\bar{y}}_5 \, \bar{\bar{y}}_6 \, S_{19} \, S_{20} \, S_{21} \, S_{22} \, S_{23} \, S_{24} \, S_{25} \, S_{26} \, S_{27} \, S_{28} \, S_{29} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40}$

0 0

 $0 \quad 0$

 $0 \quad 0$

1 1

0 1

0 1

1 1

1 1

1 1

1 1

1 1

1 1

1 1

 $E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}$

 $N_2(\bar{y}_1, S_{22}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}\}$ $E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}$

 $E(S_{22}) = \{S_{39}\}\$ $N_1(\bar{y}_1, S_{22}) = \{S_{39}\}\$

```
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{22}) — выполняется
N_1(\bar{\bar{y}}_1, S_{22}) \subseteq E(\bar{\bar{y}}_2) — выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{23}
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, 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}_1, S_{23}) = \{S_{34}\}\
N_2(\bar{\bar{y}}_1, S_{23}) = \{\bar{\bar{y}}_2, \bar{\bar{y}}_3, \bar{\bar{y}}_4, S_{12}, \bar{\bar{y}}_5, \bar{\bar{y}}_6, S_{19}, S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{25}\}
E(\bar{\bar{y}}_2) = \{\bar{\bar{y}}_3, \bar{\bar{y}}_4, S_{12}, \bar{\bar{y}}_5, \bar{\bar{y}}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{23}) — выполняется
N_1(ar{ar{y}}_1,S_{23})\subseteq E(ar{ar{y}}_2) — выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{24}
2)\bar{y}_2
E(\bar{\bar{y}}_1) = \{\bar{\bar{y}}_2, \bar{\bar{y}}_3, \bar{\bar{y}}_4, S_{12}, \bar{\bar{y}}_5, \bar{\bar{y}}_6, S_{19}, 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{\bar{y}}_1, S_{24}) = \{S_{34}\}
N_2(\bar{\bar{y}}_1,S_{24}) = \{\bar{\bar{y}}_2,\bar{\bar{y}}_3,\bar{\bar{y}}_4,S_{12},\bar{\bar{y}}_5,\bar{\bar{y}}_6,S_{19},S_{32},S_{33},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40},S_{25}\}
E(\bar{\bar{y}}_2) = \{\bar{\bar{y}}_3, \bar{\bar{y}}_4, S_{12}, \bar{\bar{y}}_5, \bar{\bar{y}}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{24}) — выполняется
N_1(\bar{y}_1, S_{24}) \subseteq E(\bar{y}_2) — выполняется
выполняется
На текущей итерации был выделен паралллельный групповой оператор \bar{y}_7 = \{S_{20}, S_{21}\}
```

		$\bar{\bar{y}}_1$	$\bar{\bar{y}}_2$	$\bar{\bar{y}}_3$	$\bar{ar{y}}_4$	S_{12}	$\bar{\bar{y}}_5$	$\bar{\bar{y}}_6$	S_{19}	$\bar{\bar{y}}_7$	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}	
	$\bar{\bar{y}}_1$	0	1	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	1
	$\bar{\bar{y}}_2$	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
	$\bar{\bar{y}}_3$	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	l
	$\bar{ar{y}}_4$	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
	S_{12}	0	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	0	l
	$ar{ar{y}}_5$	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	l
	\bar{y}_6	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	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	0	0	0	1	0	0	0	0	
	$\bar{\bar{y}}_7$	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	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	0	0	0	1	0	l
	S_{23}	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	0	0	0	l
	S_{24}	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	0	0	0	l
	S_{25}	$0 \\ 0$	0	0	0	0	0	0	0	0	0	$0 \\ 0$	0	0	$0 \\ 0$	$0 \\ 0$	0 1	$0 \\ 0$	0	0	$0 \\ 0$	$0 \\ 0$	$\frac{1}{0}$	$0 \\ 0$	$0 \\ 0$	0	0	0	$\begin{array}{c} 0 \\ 0 \end{array}$	l
SD =	S_{26} S_{27}	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	0	0	0	l
	$S_{28} S_{28} $	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	0	0	
	S_{29}	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	0	0	
	S_{30}	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	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	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	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	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	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	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	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	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	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	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	0	0	

 $\bar{\bar{y}}_1 \, \bar{\bar{y}}_2 \, \bar{\bar{y}}_3 \, \bar{\bar{y}}_4 \, S_{12} \, \bar{\bar{y}}_5 \, \bar{\bar{y}}_6 \, S_{19} \, \bar{\bar{y}}_7 \, S_{22} \, S_{23} \, S_{24} \, S_{25} \, S_{26} \, S_{27} \, S_{28} \, S_{29} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40}$ $\bar{\bar{y}}_1$ 0 1 1 1 $0 \ 0 \ 1$ \bar{y}_2 \bar{y}_3 $0 \ 0 \ 0$ $0 \quad 0$ \bar{y}_4 S_{12} $0 \quad 0$ $0 \ 0$ $\bar{\bar{y}}_5$ $0 \quad 0$ $\bar{\bar{y}}_6$ S_{19} $0 \quad 0$ $\bar{\bar{y}}_7$ 0 0 S_{22} $0 \quad 0$ U S_{23} $0 \quad 0$ S_{24} $0 \quad 0$ S_{25} $0 \quad 0$ S_{26} $0 \quad 0$ n WD = S_{27} $0 \quad 0$ S_{28} 0 0 S_{29} 0 0 0 S_{30} $0 \quad 0$ S_{31} 0 0 S_{32} 0 0 S_{33} $0 \quad 0$ 0 0 S_{34} S_{35} $0 \quad 0$ 0 0 S_{36} S_{37} $0 \ 0 \ 0$ S_{38} $0 \quad 0$ S_{39} $0 \ 0 \ 0 \ 0$ $0 \quad 0$ $S_{40} \mid 0 \ 0 \ 0 \ 0$

 $\bar{\bar{y}}_1 \, \bar{\bar{y}}_2 \, \bar{\bar{y}}_3 \, \bar{\bar{y}}_4 \, S_{12} \, \bar{\bar{y}}_5 \, \bar{\bar{y}}_6 \, S_{19} \, \bar{\bar{y}}_7 \, S_{22} \, S_{23} \, S_{24} \, S_{25} \, S_{26} \, S_{27} \, S_{28} \, S_{29} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40}$ $1 \ 0 \ 0 \ 0$ $\bar{\bar{y}}_1$ 0 1 0 0 \bar{y}_2 $\bar{\bar{y}}_3$ $0 \quad 0$ 1 0 $\bar{\bar{y}}_4$ S_{12} $0 \quad 0$ $0 \quad 0$ $\bar{\bar{y}}_5$ $0 \quad 0$ $\bar{\bar{y}}_6$ S_{19} $0 \quad 0$ 1 1 \bar{y}_7 S_{22} 1 1 S_{23} 1 1 S_{24} 1 1 S_{25} S_{26} C = S_{27} S_{28} S_{29} S_{30} 1 1 S_{31} S_{32} $0 \ 0 \ 0$ S_{33} $0 \ 0 \ 0$ S_{34} $0 \quad 0$ S_{35} $0 \quad 0$ S_{36} $0 \ 0 \ 0$ S_{37} $0 \ 0 \ 0 \ 0$ S_{38} 0 0 0 0 S_{39} 0 0 0 0 0 1 $S_{40} \mid 0 \ 0 \ 0 \ 0 \ 0 \ 1$

```
0 1 0 0
                                                                                                                                  0
                                                                                                                                         0
                                                                                                                      1
                                                                                                                            1
          \bar{y}_2
          \bar{y}_3
                                                                                           1
                                                                                                         1
                                                                                                               1
                                                                                                                      1
                                                                                                                            1
                                                                                                                                  0
                                                                                                                                         0
                                                                                                               1
                                                                                                                      1
                                                                                                                            1
                                                                                                                                   0
                                                                                                                                         0
          \bar{y}_4
                                                                                                                                  0
                                                                                                                                         0
          S_{12}
                                                                       1
                                                                              1
                                                                                                               1
                                                                                                                      1
                                                                                                                            1
                                                                 1
                                                                       1
                                                                              1
                                                                                    1
                                                                                           1
                                                                                                  1
                                                                                                         1
                                                                                                               1
                                                                                                                      1
                                                                                                                            1
                                                                                                                                  0
                                                                                                                                         0
          \bar{\bar{y}}_5
                                                                0
                                                                              1
                                                                                    1
                                                                                                         1
                                                                                                               1
                                                                                                                                   1
                                                                                                                                         0
                                                                       1
                                                                                           1
                                                                                                  1
                                                                                                                      1
                                                                                                                            1
          \bar{\bar{y}}_6
                                                                                    1
          S_{19}
                                                                1
                                                                       1
                                                                              1
                                                                                           1
                                                                                                  1
                                                                                                         1
                                                                                                               1
                                                                                                                      1
                                                                                                                            1
                                                                                                                                   1
                                                                                                                                          1
                                                                              1
                                                                                    1
                                                                                           1
                                                                                                  1
          \bar{\bar{y}}_7
                                                                 0
                                                                       1
                                                                                                         1
                                                                                                               1
                                                                                                                      1
                                                                                                                            1
                                                                                                                                   1
                                                                                                                                          1
          S_{22}
                   1
                                                0
                                                      1
                                                            0
                                                                 1
                                                                       1
                                                                              1
                                                                                    1
                                                                                           1
                                                                                                  1
                                                                                                         1
                                                                                                               1
                                                                                                                      1
                                                                                                                            1
                                                                                                                                   1
                                                                                                                                          1
                                            1
                                                                       1
                                                                              1
                                                                                    0
                                                                                           1
                                                                                                  1
                                                                                                         1
                                                                                                               1
                                                                                                                      1
                                                                                                                            1
                                                                                                                                   1
                                                                                                                                          1
          S_{23}
                   1
                                            1
                                                            1
                                                                 1
          S_{24}
                                            1
                                                            1
                                                                 1
                                                                        1
                                                                              1
                                                                                    0
                                                                                           1
                                                                                                  1
                                                                                                         1
                                                                                                               1
                                                                                                                      1
                                                                                                                            1
                                                                                                                                   1
                                                                                                                                          1
                                                 1
                                                      1
          S_{25}
                                 1
                                            1
                                                1
                                                            1
                                                                 1
                                                                       0
                                                                              0
                                                                                    1
                                                                                           1
                                                                                                  1
                                                                                                         1
                                                                                                               1
                                                                                                                      1
                                                                                                                            1
                                                                                                                                   1
                                                                                                                                          1
                    1
                            1
                                       1
                                                      1
          S_{26}
                                                1
                                                      1
                                                                 1
                                                                       1
                                                                              1
                                                                                    1
                                                                                           1
                                                                                                  1
                                                                                                        0
                                                                                                               1
                                                                                                                      1
                                                                                                                            1
                                                                                                                                   1
                                                                                                                                          1
SI =
          S_{27}
                                                                              1
                                                                                    1
                                                                                           1
                                                                                                  1
                                                                                                         0
                                                                                                               1
                                                1
                                                                       1
                                                                                                                      1
                                                                                                                            1
                                                                                                                                   1
                                                                                                                                          1
          S_{28}
                                                1
                                                                                                         1
          S_{29}
                                                1
                                                                              1
                                                                                    1
                                                                                           1
                                                                                                  1
                                                                                                         1
                                                                                                               1
                                                                                                                      1
                                                                                                                            0
                                                                                                                                   1
                                                                                                                                          1
                                                                       1
                                                                              1
                                                                                    1
                                                                                           1
                                                                                                               1
                                                                                                                            0
                                                                                                                                   1
          S_{30}
                                                1
                                                                       1
                                                                                                  1
                                                                                                         1
                                                                                                                      1
                                                                                                                                          1
                   1
                                                                                                               0
                                                                                                                     0
          S_{31}
                                                1
                                                                        1
                                                                              1
                                                                                    1
                                                                                           1
                                                                                                  1
                                                                                                         1
                                                                                                                            1
                                                                                                                                   1
                                                                                                                                          1
          S_{32}
                                            0
                                                1
                                                                 1
                                                                       1
                                                                              1
                                                                                    1
                                                                                           1
                                                                                                         1
                                                                                                               1
                                                                                                                     1
                                                                                                                            1
                                                                                                                                   1
                                                                                                                                          1
                                            0
                                                                              1
                                                                                           1
                                                                                                  1
                                                                                                               1
                                                                                                                     1
                                                                                                                                   1
                                                                                                                                          1
          S_{33}
                                                0
                                                      1
                                                                 1
                                                                       1
                                                                                    1
                                                                                                        1
                                                                                                                            1
                                                                       0
                                                                              0
                                                                                    0
                                                                                           1
                                            0
                                                1
                                                                 1
                                                                                                               1
                                                                                                                      1
                                                                                                                            1
                                                                                                                                   1
                                                                                                                                          1
          S_{34}
                                            0
                                                      1
                                                                       1
                                                                              1
                                                                                    1
                                                                                           1
                                                                                                  1
                                                                                                        1
                                                                                                               1
                                                                                                                     1
                                                                                                                                   1
                                                                                                                                          1
          S_{35}
                                                1
                                                                 1
                                                                                                                            1
          S_{36}
                                                0
                                                                       1
                                                                              1
                                                                                           1
                                                                                                  1
                                                                                                               1
                                                                                                                      1
                                                                                                                            1
                                                                                                                                   1
                                                                                                                                          1
          S_{37}
                   0 0 0 0
                                            0
                                                1
                                                      1
                                                                 1
                                                                       1
                                                                              1
                                                                                    1
                                                                                           1
                                                                                                  1
                                                                                                        1
                                                                                                               1
                                                                                                                      1
                                                                                                                            1
                                                                                                                                   1
                                                                                                                                          1
          S_{38}
                                                                                           1
                                                                                                               1
                                                                                                                                   1
                   0 0 0 0
                                            0
                                                1
                                                      1
                                                            1
                                                                 1
                                                                       1
                                                                              1
                                                                                    1
                                                                                                  1
                                                                                                        1
                                                                                                                     1
                                                                                                                            1
                                                                                                                                          1
          S_{39}
                   0 0 0 0
                                      0
                                            0
                                                1
                                                      1
                                                            0
                                                                0
                                                                       1
                                                                              1
                                                                                    1
                                                                                           1
                                                                                                  1
                                                                                                        1
                                                                                                               1
                                                                                                                     1
                                                                                                                            1
                                                                                                                                   1
                                                                                                                                          1
          S_{40} \mid 0 \ 0 \ 0 \ 0 \ 0 \ 1 \ 1 \ 1 \ 1
                                                                              1
                                                                                    1
                                                                                           1
                                                                                                  1
                                                                                                        1
                                                                                                               0
                                                                                                                     0
                                                                                                                            0
                                                                                                                                  1
                                                                                                                                         1
                                                                       1
Проверка условия приводимости программы к ППФ (5 из 261):
1)\bar{\bar{y}}_1 \nrightarrow \bar{\bar{y}}_7
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_7) = \{S_{22}, S_{39}\}
N_1(\bar{\bar{y}}_1,\bar{\bar{y}}_7) = \{S_{39}\}
N_2(\bar{y}_1,\bar{y}_7) = \{\bar{y}_2,\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},S_{32},S_{33},S_{34},S_{35},S_{36},S_{37},S_{38},S_{40},S_{22}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, 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}_7) — выполняется
N_1(\bar{y}_1,\bar{y}_7) \subseteq E(\bar{y}_2) – выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{22}
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, 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}_1, S_{22}) = \{S_{39}\}\
N_2(\bar{y}_1, S_{22}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{22}) — выполняется
N_1(\bar{\bar{y}}_1,S_{22})\subseteq E(\bar{\bar{y}}_2) — выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{23}
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, 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}_1, S_{23}) = \{S_{34}\}
N_2(\bar{y}_1, S_{23}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{25}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, 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, S_{23}) — выполняется
```

 $\bar{\bar{y}}_1$

 $\bar{\bar{y}}_1 \, \bar{\bar{y}}_2 \, \bar{\bar{y}}_3 \, \bar{\bar{y}}_4 \, S_{12} \, \bar{\bar{y}}_5 \, \bar{\bar{y}}_6 \, S_{19} \, \bar{\bar{y}}_7 \, S_{22} \, S_{23} \, S_{24} \, S_{25} \, S_{26} \, S_{27} \, S_{28} \, S_{29} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40}$

 $0 \quad 0$

0 0 0 0 0 0 0

 $0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0$

1 1 0 1

1 1 0

1 1 1 1

0 1

 $0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1$

 $0 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1 \quad 1$

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 1 1

1 1 1 1 1 1

1 1 1 1 1 1 1

 $0 \quad 0 \quad 0 \quad 0 \quad 0$

 $0 \ 0 \ 0$

1 1 1 1 1

0 0 0

 $0 \quad 0$

0 1

0 1

1 1

1 1

```
N_1(\bar{\bar{y}}_1, S_{23}) \subseteq E(\bar{\bar{y}}_2) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{24}
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, 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}_1, S_{24}) = \{S_{34}\}
N_2(\bar{\bar{y}}_1, S_{24}) = \{\bar{\bar{y}}_2, \bar{\bar{y}}_3, \bar{\bar{y}}_4, S_{12}, \bar{\bar{y}}_5, \bar{\bar{y}}_6, S_{19}, S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{25}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{24}) — выполняется
N_1(ar{ar{y}}_1,S_{24})\subseteq E(ar{ar{y}}_2) — выполняется
выполняется
1)\bar{y}_1 \nrightarrow S_{25}
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, 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{\bar{y}}_1, S_{25}) = \{S_{34}\}
N_2(\bar{y}_1, S_{25}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{\bar{y}}_2) = \{\bar{\bar{y}}_3, \bar{\bar{y}}_4, S_{12}, \bar{\bar{y}}_5, \bar{\bar{y}}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{25}) — выполняется
N_1(ar{ar{y}}_1,S_{25})\subseteq E(ar{ar{y}}_2) — выполняется
выполняется
На текущей итерации был выделен паралллельный групповой оператор \bar{y}_8 = \{S_{22}, S_{23}, S_{24}\}
```

Отношения между операторами:

		$\bar{\bar{y}}_1$	$\bar{\bar{y}}_2$	$\bar{\bar{y}}_3$	$\bar{\bar{y}}_4$	S_{12}	$\bar{\bar{y}}_5$	$\bar{\bar{y}}_6$	S_{19}	$\bar{ar{y}}_7$	$\bar{ar{y}}_8$	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}
	$\bar{ar{y}}_1$	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	$\bar{ar{y}}_2$	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	$\bar{\bar{y}}_3$	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
	$\bar{ar{y}}_4$	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	S_{12}	0	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
	$\bar{\bar{y}}_5$	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	$\bar{\bar{y}}_6$	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	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	0	1	0	0	0	0
	$\bar{\bar{y}}_7$	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	0
	$\bar{ar{y}}_8$	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	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
	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
SD=	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
22	S_{28}	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_{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
	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
	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
	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
	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
	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
	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
	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
	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
	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	$\begin{bmatrix} 0 \\ 0 \end{bmatrix}$
	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	$\begin{bmatrix} 0 \\ 0 \end{bmatrix}$
	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]

 $\bar{\bar{y}}_1 \, \bar{\bar{y}}_2 \, \bar{\bar{y}}_3 \, \bar{\bar{y}}_4 \, S_{12} \, \bar{\bar{y}}_5 \, \bar{\bar{y}}_6 \, S_{19} \, \bar{\bar{y}}_7 \, \bar{\bar{y}}_8 \, S_{25} \, S_{26} \, S_{27} \, S_{28} \, S_{29} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40} \, S_{39} \, S_{3$ $\bar{\bar{y}}_1$ $\bar{\bar{y}}_2$ $0 \ 0 \ 1$ $\bar{\bar{y}}_3$ $\bar{\bar{y}}_4$ S_{12} $\bar{\bar{y}}_5$ $\bar{\bar{y}}_6$ S_{19} $\bar{\bar{y}}_7$ \bar{y}_8 S_{25} S_{26} S_{27} WD = S_{28} S_{29} S_{30} S_{31} S_{32} S_{33} S_{34} S_{35} S_{36} S_{37} S_{38} 0 0 0 0 0 0 0 0 0 S_{39} $S_{40} \mid 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0$ $0 \quad 0$

```
\bar{\bar{y}}_1 \, \bar{\bar{y}}_2 \, \bar{\bar{y}}_3 \, \bar{\bar{y}}_4 \, S_{12} \, \bar{\bar{y}}_5 \, \bar{\bar{y}}_6 \, S_{19} \, \bar{\bar{y}}_7 \, \bar{\bar{y}}_8 \, 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
\bar{\bar{y}}_1
                                                                                                          1
                                                                                                                 1
           0 \ 1 \ 0
                                                                                                                 1
                                                                                                                         0
                                                                                                                                 0
                                                                                                                                        0
                                                                                                                                                0
                                                                                                                                                       0
                                                                                                                                                              0
                                                                                                                                                                      0
                                                                                                          1
                                                                                                                                                                              0
                                                                                                                                                                                     0
\bar{y}_2
                                                                                                                         0
                                                                                                                                 0
                                                                                                                                        0
\bar{y}_3
           0 0
                    1
                          0
                                                                                                          1
                                                                                                                 1
                                                                                                                                                0
                                                                                                                                                       0
                                                                                                                                                              0
                                                                                                                                                                      0
                                                                                                                                                                              0
                                                                                                                                                                                     0
           0 \quad 0
                     0
                                                                                                          1
                                                                                                                 1
                                                                                                                         0
                                                                                                                                 0
                                                                                                                                        0
                                                                                                                                                0
                                                                                                                                                       0
                                                                                                                                                              0
                                                                                                                                                                      0
                                                                                                                                                                              0
                                                                                                                                                                                     0
\bar{y}_4
S_{12}
                                                                                                                         0
                                                                                                                                 0
                                                                                                                                        0
                                                                                                                                                0
           0 \quad 0
                                                                                                                                                                                     0
\bar{\bar{y}}_5
                                                                                                                         0
                                                                                                                                 0
                                                                                                                                        0
                                                                                                                                                0
                                                                                                                                                       0
                                                                                                                                                                      0
                                                                                                                                                                              0
                                                                                                                                                                                     0
                                                                                                                         1
                                                                                                                                 0
                                                                                                                                        1
\bar{\bar{y}}_6
                                                                                                                                                                                     1
                                                                                                                         1
S_{19}
                                                                                                                                 1
                                                                                                                                        0
\bar{\bar{y}}_7
                                                                                                                  1
                                                                                                                         1
                                                                                                                                 1
                                                                                                                                                1
                                                                                                                                                                                     1
                                                                            1
                                                                                                          1
                                                                                                                  1
                                                                                                                         1
                                                                                                                                 1
                                                                                                                                        0
\bar{\bar{y}}_8
                                                                                                                                                1
                                                                                                                                                                                     1
S_{25}
                                                         0
                                                                                                          1
                                                                                                                  1
                                                                                                                         1
                                                                                                                                 1
                                                                                                                                        0
                                                                            1
                                                                                    1
                                                                                                  1
                                                                                                                                                1
                                                                                                                                                       1
                                                                                                                                                                                     1
S_{26}
                                                                                           0
                                                                                                  1
                                                                                                          1
                                                                                                                  1
                                                                                                                         1
                                                                                                                                 1
                                                                                                                                                1
S_{27}
           1
                                                                                    1
                                                                                           0
                                                                                                  1
                                                                                                          1
                                                                                                                  1
                                                                                                                         1
                                                                                                                                 1
                                                                                                                                        1
                                                                                                                                                1
                                                                                                                                                                                     1
S_{28}
                                                                                   0
                                                                                                                                                                                     1
S_{29}
                                                                                                                                                                                     0
S_{30}
S_{31}
                                                                                                                                                                                     0
S_{32}
                     0
                                                                                                                         1
                                                                                                                                 1
                                                                                                                                                                                     1
S_{33}
S_{34}
           0 \quad 0
                                 0
                                                                                                                                                1
                                                                                                                                                                                     1
                                 0
S_{35}
           0 0
                    0
                                                                                                                                                                                     1
S_{36}
                    0
                                                                                                                                                                                     1
           0 \quad 0
                                                                                                          1
                                                                                                                         1
                                                                                                                                 1
S_{37}
           0 \ 0 \ 0
                                                                                                                                                                                     1
S_{38}
                                                                                                          1
                                                                                                                         1
                                                                                                                                 1
                                                                                                                                                1
                                                                                                                                                                                     1
S_{39}
           0 \ 0 \ 0 \ 0
                                0
                                       0
                                                         0
                                                             0
                                                                            1
                                                                                   1
                                                                                           1
                                                                                                  1
                                                                                                          1
                                                                                                                 1
                                                                                                                         1
                                                                                                                                 1
                                                                                                                                        1
                                                                                                                                                1
                                                                                                                                                       1
                                                                                                                                                               1
                                                                                                                                                                       1
                                                                                                                                                                              1
          0 0 0 0
                                0
                                                                                                  0
                                                                                                          0
                                                                                                                 0
                                                                                                                         1
                                                                                                                                 1
                                       0
                                                         1
                                                             1
                                                                                                                                        1
                                                                                                                                                1
                                                                                                                                                       1
                                                                                                                                                               1
```

 $\bar{\bar{y}}_1 \, \bar{\bar{y}}_2 \, \bar{\bar{y}}_3 \, \bar{\bar{y}}_4 \, S_{12} \, \bar{\bar{y}}_5 \, \bar{\bar{y}}_6 \, S_{19} \, \bar{\bar{y}}_7 \, \bar{\bar{y}}_8 \, S_{25} \, S_{26} \, S_{27} \, S_{28} \, S_{29} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40}$ $\bar{\bar{y}}_1$ $\bar{\bar{y}}_2$ 0 0 $\bar{\bar{y}}_3$ \bar{y}_4 S_{12} $\bar{\bar{y}}_5$ \bar{y}_6 S_{19} $\bar{\bar{y}}_7$ $\bar{ar{y}}_8$ S_{25} S_{26} S_{27} SI = S_{28} S_{29} S_{30} S_{31} S_{32} S_{33} S_{34} S_{35} S_{36} S_{37} $0 \quad 0$ S_{38} $0 \quad 0$ 0 0 0 0 S_{39} $S_{40} \mid 0 \ 0 \ 0 \ 0 \ 0 \ 1 \ 1 \ 1 \ 1 \ 1$

Проверка условия приводимости программы к ППФ (5 из 210):

```
1)\bar{y}_1 \rightarrow \bar{y}_7

2)\bar{y}_2

E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}

E(\bar{y}_7) = \{\bar{y}_8, S_{25}, S_{34}, S_{39}\}
```

```
N_1(\bar{y}_1,\bar{y}_7) = \{S_{34},S_{39}\}
N_2(\bar{y}_1, \bar{y}_7) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{40}, \bar{y}_8, S_{25}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1,ar{ar{y}}_7) — выполняется
N_1(\bar{y}_1,\bar{y}_7) \subseteq E(\bar{y}_2) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow \bar{\bar{y}}_8
2)\bar{\bar{y}}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_8) = \{S_{25}, S_{34}, S_{39}\}
N_1(\bar{\bar{y}}_1,\bar{\bar{y}}_8) = \{S_{34},S_{39}\}
N_2(\bar{y}_1,\bar{y}_8) = \{\bar{y}_2,\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},S_{32},S_{33},S_{35},S_{36},S_{37},S_{38},S_{40},S_{25}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1,ar{ar{y}}_8) — выполняется
N_1(\bar{y}_1,\bar{y}_8) \subseteq E(\bar{y}_2) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{25}
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, 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}_1, S_{25}) = \{S_{34}\}\
N_2(\bar{y}_1, S_{25}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_{2} \in N_{2}(ar{ar{y}}_{1}, S_{25}) — выполняется
N_1(\bar{\bar{y}}_1, S_{25}) \subseteq E(\bar{\bar{y}}_2) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{26}
2)\bar{\bar{y}}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{26}) = \{S_{28}\}\
N_1(\bar{y}_1, S_{26}) = \varnothing
N_2(\bar{y}_1, S_{26}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{28}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{26}) — выполняется
N_1(\bar{\bar{y}}_1, S_{26}) \subseteq E(\bar{\bar{y}}_2) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{27}
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{27}) = \{S_{28}\}\
N_1(\bar{y}_1, S_{27}) = \varnothing
N_2(\bar{y}_1, S_{27}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}, S_{28}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, 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, S_{27}) — выполняется
N_1(\bar{y}_1,S_{27})\subseteq E(\bar{y}_2) — выполняется
выполняется
На текущей итерации был выделен паралллельный групповой оператор \bar{y}_9 = \{S_{25}, S_{26}, S_{27}\}
```

Отношения между операторами:

011101		,, ,,,		٠٠,	, 0		Jui	op.	W.1711																
		$ar{ar{y}}_1$	$\bar{\bar{y}}_2$	$\bar{\bar{y}}_3$	$ar{ar{y}}_4$	S_{12}	$\bar{\bar{y}}_5$	$ar{ar{y}}_6$	S_{19}	$ar{ar{y}}_7$	$\bar{ar{y}}_8$	$ar{ar{y}}_9$.	S_{28} ,	S_{29} ,	S_{30} .	S_{31} ,	S_{32} ,	S_{33}	S_{34} .	S_{35} ,	S_{36}	S_{37}	S_{38} ,	S_{39} 3	S_{40}
	$\bar{\bar{y}}_1$ [0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0]
	$\bar{\bar{y}}_2$	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	$\bar{\bar{y}}_3$	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
	$\bar{\bar{y}}_4$	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	S_{12}	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	$\bar{\bar{y}}_5$	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	\bar{y}_6	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	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	1	0	0	0	0
	$\bar{\bar{y}}_7$	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	$\bar{\bar{y}}_8$	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
	$\bar{\bar{y}}_9$	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
SD=	S_{28}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3D –	S_{29}	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	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	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
	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
	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
	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
	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
	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
	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
	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
	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
		$ar{ar{y}}$	$_{1}ar{ar{y}}_{1}$	$_2ar{ar{y}}$	$_3ar{ar{y}}_4$	S_1	$_{2}ar{ar{y}}$	5 $ar{ar{y}}\epsilon$	S_1	9 $ar{ar{y}}$	$_{7}ar{ar{y}}_{8}$	$_{3}ar{ar{y}}_{9}$	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}
	$ar{ar{y}}_1$	ΓΟ) 1	l 1	. 1	1	1	. 1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1 7
	$ar{ar{y}}_2$	0) () 1	. 1	1	1	. 1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	$ar{ar{y}}_3$	0) () (1	1	1	. 1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	$ar{ar{y}}_4$	0) () (0	1	1	. 1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
	S_{12}	10) () (0	0	1	. 1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1

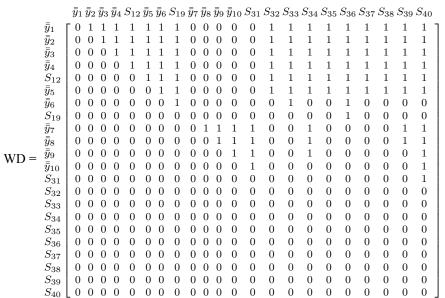
 $0 \ 0 \ 0$ 0 0 0 0 0 $0 \ 0 \ 0$ 0 0 0 $0 \ 0 \ 0$ $0 \ 0 \ 0$ 0 0 0 0 0 0 0 0 0 0 WD = $0 \ 0 \ 0 \ 0$ 0 0 0 0 0 0 0 0 $0 \ 0 \ 0 \ 0$ 0 $0 \ 0 \ 0$ 0 0 0 0 0 $0 \ 0 \ 0 \ 0$ 0 $0 \ 0 \ 0$ $0 \ 0 \ 0$ 0 S_{32} S_{33} 0 0 0 0 0 0 0 0 0 0 $0 \ 0 \ 0 \ 0$ 0 0 $0 \ 0 \ 0$ $0 \ 0 \ 0 \ 0$ 0 0 0 0 0 0 0 0 $0 \quad 0$ 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

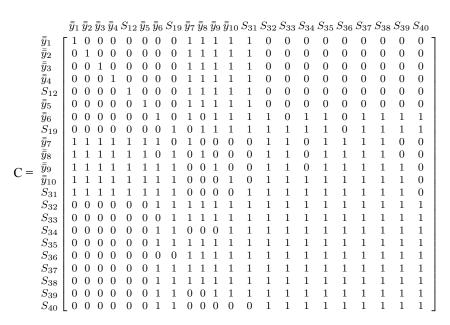
```
\bar{\bar{y}}_1 \, \bar{\bar{y}}_2 \, \bar{\bar{y}}_3 \, \bar{\bar{y}}_4 \, S_{12} \, \bar{\bar{y}}_5 \, \bar{\bar{y}}_6 \, S_{19} \, \bar{\bar{y}}_7 \, \bar{\bar{y}}_8 \, \bar{\bar{y}}_9 \, S_{28} \, S_{29} \, S_{30} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40}
                1
                                                                            1
                                                                                  0
                                                                                        0
                                                                                             0
                                                                                                  0
                                                                                                        0
       \bar{\bar{y}}_2
                0 1 0 0
                              0 \ 0 \ 0
                                           0 1 1 1
                                                            1
                                                                  1
                0 \ 0 \ 1 \ 0 \ 0 \ 0 \ 0
                                           0 \ 1 \ 1 \ 1
                                                                                        0
       \bar{\bar{y}}_3
                                                           1
                                                                  1
                                                                       1
                                                                             1
                                                                                  0
                                                                                             0
                                                                                                  0
                                                                                                        0
                                                                                                                        0
                                                                                                                              0
                0 \ 0 \ 0 \ 1
                               0
                                    0 0
                                            0
                                                 1
                                                     1
                                                        1
                                                             1
                                                                                  0
                                                                                        0
                                                                                             0
                                                                                                   0
                                                                                                        0
                                                                                                                        0
                                                                                                                              0
       \bar{\bar{y}}_4
                                                                  1
       S_{12}
                0 0 0 0
                               1 0 0
                                           0
                                               1 1 1
                                                            1
                                                                                        0
                                                                                             0
                                                                                                   0
                                                                                                                              0
                                                                  1
                0 0 0 0
                              0
                                   1 0
                                            0
                                               1 1 1
                                                            1
                                                                  1
                                                                       1
                                                                                  0
                                                                                        0
                                                                                             0
                                0
                                            0
                                                    0
                          0
                                    0
                                        1
                                                 1
       S_{19}
                0 0 0 0
                               0
                                   0 0
                                            1
                                                 0 1
                                                        1
                                                            1
                                                                                        1
                                                    0 0 0
                       1
                          1
                               1
                                    1
                                        1
                                            0
                                               1
                                                                  1
                                                                                             0
                                        0
                                            1
                                                 0
                                                    1
                                                        0
                                                             0
                                                                                        1
                                1
                                    1
                                                                  1
                                                                                                                              1
        \bar{\bar{y}}_8
                                                 0
                                                            0
       \bar{\bar{y}}_9
                                    1 1
                                            1
                                                    0 1
                                                                  1
                                                                                        1
                                    1
                                                 0
                                                    0 0
                                                             1
       S_{29}
                                        1
                                            1
                                                 1
                                                             1
                                                                        1
                                                                             0
                                                                                        1
                                                                                                                              0
                                    1
                                                     1
                                                                  1
                                1
                                    1
                                        1
                                                 1
                                                     1
                                                        1
                                                             1
                                                                  1
                                                                       1
                                                                             0
                                                                                        1
                                    1
                                   0 1
        S_{32}
                0 0 0 0
                                0
                                            1
                                                 1
                                                     1
                                                        1
                                                             1
                                                                  1
                                                                        1
                                   0 0
                0 0 0 0
                               0
                                            1
                                                 1
                                                    1 1
                                                             1
                                                                  1
                                                                        1
                                                                             1
                                                                                        1
       S_{34}
                                                0 0 0
                0 0 0 0
                               0
                                   0 1
                                            1
                                                            1
                                                                  1
                0 0 0 0
                               0 \ 0 \ 1
                                            1 1 1 1
                                                            1
                                                                  1
                                                                       1
                0 0 0 0
                               0
                                   0 0
                                           0
                                                 1
                                                     1
                                                        1
                                                             1
                                                                  1
        S_{36}
       S_{37}
                0 0 0 0
                              0 \ 0 \ 1
                                           1 1 1 1
                                                            1
                1
        S_{38}
                                                                  1
                                                                       1
                                                                             1
                                                                                  1
                                                                                             1
                                                                                                   1
       S_{39}
                0 0 0 0
                              0 \ 0 \ 1
                                            1
                                                 0 \ 0 \ 1
                                                             1
                                                                  1
                                                                       1
                                                                             1
                                                                                        1
       1
                                                                  0
                                                                       0
                                                                             0
                \bar{\bar{y}}_1 \, \bar{\bar{y}}_2 \, \bar{\bar{y}}_3 \, \bar{\bar{y}}_4 \, S_{12} \, \bar{\bar{y}}_5 \, \bar{\bar{y}}_6 \, S_{19} \, \bar{\bar{y}}_7 \, \bar{\bar{y}}_8 \, \bar{\bar{y}}_9 \, 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
                                                                                   0
                                                                                        0
                                                                                             0
                                                                                                   0
                                                                                                         0
        \bar{\bar{y}}_2
                                   0 \ 0 \ 0 \ 1 \ 1 \ 1
                                                                                                   0
                 0 0 1 0
                               0 \ 0 \ 0 \ 0 \ 1 \ 1 \ 1
                                                            1
                                                                   1
                                                                        1
                                                                              1
                                                                                   0
                                                                                        0
                                                                                              0
                                                                                                   0
                                                                                                         0
                                                                                                              0
                                                                                                                         0
                                                                                                                              0
                 0 \ 0 \ 0
                            1
                                0
                                     0 0
                                             0
                                                  1
                                                     1
                                                         1
                                                                                   0
                                                                                              0
                                                                                                   0
                                                                                                         0
                                                                                                                              0
         \bar{\bar{y}}_4
        S_{12}
                 0 0 0 0
                               1
                                    0 0 0
                                                  1
                                                     1 1
                                                                        1
                                                                                                   0
                 0 0 0 0
                               0 1 0 0
                                                 1 1 1
                                                             1
                                                                   1
                                                                        1
                                                                              1
                                                                                   0
                                                                                              0
                                                                                                   0
                        0 0
                                     0
                                        1
                                             0
                                                  0
                                                     0
         \bar{y}_6
        S_{19}
                 0 0 0 0
                               0 0 0
                                                  0 1 1
                                            1
                                                                        1
                                                                                                   1
                 1 1
                        1 1
                                1
                                     1 \ 0 \ 0
                                                 1
                                                     0 0
                                                             0
                                                                   1
                                                                        1
                                                                              1
                                                                                    1
                                                                                                   1
                                     1 0
                                             1
                                                  0
                                                     1
                                                             0
                                                                   1
                                                                        1
         \bar{y}_8
                                                 0
                                                     0
                                                             0
                                        1
                                             1
                                                        1
                                                                        1
                                                                                                                              1
                                                  0
                                                     0 0
        S_{28}
SI =
        S_{29}
                                                                              0
                                                                                                                              0
                                        1
                                             1
                                                  1
                                                     1
                                                                        1
                                             1
                                                                              0
         S_{30}
                                        1
                                                  1
                                                     1
                                                                        1
                                                                                   1
                                                                                                   1
                                                                                                                              0
                                                                        0
         S_{31}
                                             1
                                                  1 \quad 1 \quad 1
                                    0 1
                 0 0 0 0
                                0
         S_{32}
                                             1
                                                  1
                                                     1 1
                                                                   1
                                                                        1
                                                                              1
                                    0 0
         S_{33}
                 0 0 0 0
                                0
                                             1
                                                  1
                                                     1
                                                         1
                                                              1
                                                                   1
                                                                        1
                                                                              1
                                                                                    1
                                   0 1 1
                                                 0 \ 0 \ 0
         S_{34}
                 0 \ 0 \ 0 \ 0
        S_{35}
                 0 0 0 0
                               0
                                    0 1
                                             1
                                                 1 1 1
                                                             1
                                                                   1
                                                                        1
         S_{36}
                 0 0 0 0
                                0
                                    0 0
                                             0
                                                  1
                                                     1
        S_{37}
                0 0 0 0
                               0
                                   0 \ 1 \ 1
                                                 1 1 1
                                                                        1
                                                                                                                              1
                0 0 0 0
                               0
                                   0\ 1\ 1
                                                 1 1 1
                                                             1
                                                                   1
                                                                        1
                                                                              1
                                                                                                   1
                                                                                                         1
                                                                                                              1
                                                                                                                         1
                                                                                                                              1
                               0
                                    0 1
                                             1
                                                 0 \ 0 \ 1
                0 0 0 0
                                                             1
                                                                   1
                                                                        1
                                                                   0
                                                                              0
                0 \ 0 \ 0 \ 0 \ 0 \ 1
                                             1
                                                 1 1 1
                                                             1
                                                                        0
                                                                                   1
Проверка условия приводимости программы к ППФ (5 из 162):
1)\bar{\bar{y}}_1 \nrightarrow \bar{\bar{y}}_7
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_7) = {\bar{y}_8, \bar{y}_9, S_{28}, S_{34}, S_{39}}
N_1(\bar{\bar{y}}_1,\bar{\bar{y}}_7) = \{S_{34},S_{39}\}
N_2(\bar{y}_1,\bar{y}_7) = \{\bar{y}_2,\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},S_{32},S_{33},S_{35},S_{36},S_{37},S_{38},S_{40},\bar{y}_8,\bar{y}_9,S_{28}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, 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}_7) — выполняется
N_1(\bar{y}_1,\bar{y}_7)\subseteq E(\bar{y}_2) – выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow \bar{\bar{y}}_8
2)\bar{\bar{y}}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_8) = {\bar{y}_9, S_{28}, S_{34}, S_{39}}
N_1(\bar{\bar{y}}_1,\bar{\bar{y}}_8) = \{S_{34},S_{39}\}
N_2(\bar{y}_1,\bar{y}_8) = \{\bar{y}_2,\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},S_{32},S_{33},S_{35},S_{36},S_{37},S_{38},S_{40},\bar{y}_9,S_{28}\}
```

 $E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}$

```
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1,ar{ar{y}}_8) — выполняется
N_1(\bar{y}_1,\bar{y}_8)\subseteq E(\bar{y}_2) – выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow \bar{\bar{y}}_9
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_9) = \{S_{28}, S_{34}\}
N_1(\bar{y}_1,\bar{y}_9) = \{S_{34}\}\
N_2(\bar{\bar{y}}_1,\bar{\bar{y}}_9) = \{\bar{\bar{y}}_2,\bar{\bar{y}}_3,\bar{\bar{y}}_4,S_{12},\bar{\bar{y}}_5,\bar{\bar{y}}_6,S_{19},S_{32},S_{33},S_{35},S_{36},S_{37},S_{38},S_{39},S_{40},S_{28}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1,ar{ar{y}}_9) — выполняется
N_1(\bar{y}_1,\bar{y}_9) \subseteq E(\bar{y}_2) – выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{28}
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(S_{28}) = \emptyset
N_1(\bar{\bar{y}}_1, S_{28}) = \varnothing
N_2(\bar{y}_1, S_{28}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{28}) — выполняется
N_1(\bar{y}_1, S_{28}) \subseteq E(\bar{y}_2) – выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow S_{29}
2)\bar{\bar{y}}_2
E(\bar{\bar{y}}_1) = \{\bar{\bar{y}}_2, \bar{\bar{y}}_3, \bar{\bar{y}}_4, S_{12}, \bar{\bar{y}}_5, \bar{\bar{y}}_6, S_{19}, 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(\bar{y}_1, S_{29}) = \{S_{40}\}\
N_2(\bar{y}_1, S_{29}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{31}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1, S_{29}) — выполняется
N_1(\bar{y}_1,S_{29})\subseteq E(\bar{y}_2) – выполняется
выполняется
На текущей итерации был выделен паралллельный групповой оператор \bar{y}_{10} = \{S_{28}, S_{29}, S_{30}\}
```

```
\bar{\bar{y}}_1 \, \bar{\bar{y}}_2 \, \bar{\bar{y}}_3 \, \bar{\bar{y}}_4 \, S_{12} \, \bar{\bar{y}}_5 \, \bar{\bar{y}}_6 \, S_{19} \, \bar{\bar{y}}_7 \, \bar{\bar{y}}_8 \, \bar{\bar{y}}_9 \, \bar{\bar{y}}_{10} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40}
             0\ 1\ 0\ 0\ 0\ 0\ 0\ 0\ 0\ 0\ 0
                                                 0
                                                     0
                                                         0
                                                              0
             0
                                                                                     0
             \bar{\bar{y}}_3
                                                                                     0
             0
                                                     0
                                                          0
                                                              0
                                                                  0
                                                                     0
                                                                                  0
                                                                                     0
                                                                              1
       S_{12}
             0 0 0 0
                        0
                            1 0
                                 0
                                     0 0
                                          0
                                              0
                                                  0
                                                      0
                                                          0
                                                                                  0
                                                                                     0
             0 0 0 0 0
                           0 1
                                 0
                                     0 0 0 0
                                                 0
                                                          1
       \bar{\bar{y}}_5
                                                     1
                                                                                     1
             0 0 0 0
                        0
                                                  0
                                                     0
                                                                     n
                           0 \ 0
                                 - 1
                                     0 0 0 0
                                                          1
                                                                                     n
             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
                                       1 0
                                              0
                                                  0
                                                     0
                                                          0
                                                              0
                                                                     0
       \bar{\bar{y}}_7
                                                                                     0
             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
                                              1
                                                  0
                                                      0
                                                          0
                                                                                      0
       \bar{y}_9
SD =
             0 0 0 0
                        0
                           0 \ 0
                                 0
                                     0 0 0 0
                                                     0
                                                          0
                                                              0
                                                                  0
                                                                     0
                                                                         0
                                                                             0
                                                                                  0
                                                 1
                                                                                     0
       \bar{\bar{y}}_{10}
       S_{31}
             0 0 0 0
                        0
                           0 0
                                 0
                                     0 0 0 0
                                                  0
                                                      0
                                                          0
                                                              0
                                                                  0
                                                                     0
       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
                                 Ω
                                     0 \ 0
                                                  0
                                                     Ω
                                                          0
                                                              0
                                                                  n
       S_{33}
                                          0
                                              n
                                                                                  n
                                                                                     n
       S_{34}
             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
       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
       S_{37}
                                    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
       S_{39}
             0
                                                     0
                                                          0
                                                              0
                                                                  0
                                                                     0
                                                                         0
                                                                             0
                                                                                  0
                                                                                     0
```





```
\bar{\bar{y}}_1 \, \bar{\bar{y}}_2 \, \bar{\bar{y}}_3 \, \bar{\bar{y}}_4 \, S_{12} \, \bar{\bar{y}}_5 \, \bar{\bar{y}}_6 \, S_{19} \, \bar{\bar{y}}_7 \, \bar{\bar{y}}_8 \, \bar{\bar{y}}_9 \, \bar{\bar{y}}_{10} \, S_{31} \, S_{32} \, S_{33} \, S_{34} \, S_{35} \, S_{36} \, S_{37} \, S_{38} \, S_{39} \, S_{40}
                    1 0 0 0 0 0 0 0 1 1 1 1
                                                                              1
                                                                                    0
                                                                                          0
                                                                                                 0
                                                                                                       0
                                                                                                              0
                                                                                                                    0
          \bar{\bar{y}}_1
                    0 \ 1 \ 0 \ 0
                                    0 \ 0 \ 0 \ 0 \ 1 \ 1 \ 1
                                                                                     0
                                                                                           0
          \bar{\bar{y}}_2
                                                                              1
                    0 \ 0 \ 1 \ 0 \ 0 \ 0 \ 0 \ 1 \ 1 \ 1
                                                                        1
                                                                              1
                                                                                    0
                                                                                           0
                                                                                                 0
                                                                                                              0
                                                                                                                    0
                    0 \ 0 \ 0 \ 1
                                      0
                                           0 \ 0 \ 0
          \bar{\bar{y}}_4
                                                                                     0
                   0 0 0 0 1 0 0 0 1 1 1
                                                                                           0
          S_{12}
                                                                              1
                                                                                    0
                                                                                                 0
                                                                                                              0
                                                                                                                                       0
                    0 0 0 0
                                    0 \ 1 \ 0 \ 0 \ 1 \ 1 \ 1
                                                                                     0
          \bar{\bar{y}}_5
                    0 \ 0 \ 0 \ 0
                                     0
                                          0 1
                                                    0
                                                          0 \ 0 \ 1
                                                                                     1
                                     0 \ 0 \ 0
                    0 0 0 0
                                                          0 1 1
          S_{19}
                                                   1
                                                                              1
                                           1 \ 0 \ 0 \ 1 \ 0 \ 0
          \bar{\bar{y}}_7
                                            1 0 1
                                                          0 1 0
                                                                        0
                                                                              0
                                      1
                                                          0 \ 0 \ 1
                                                                              0
         \bar{\bar{y}}_9
                                            1 1
                                                     1
                                                                        0
          \bar{\bar{y}}_{10}
                                          1 \ 1 \ 1 \ 0 \ 0 \ 0
                    1 1 1 1
                                      1 1 1 1
                                                          0 0 0
                                                                        0
                                                                              1
          S_{31}
                                                                                     1
                    0 0 0 0
                                     0 0 1
                                                     1
                                                           1
                                                               1
          S_{32}
          S_{33}
                    0 0 0 0
                                    0 \ 0 \ 0 \ 1
                                                         1
                                                              1 1
          S_{34}
                    1
                                                                              1
                                                                                     1
          S_{35}
                    0 0 0 0
                                     0
                                          0 1
                                                     1
          S_{36}
                   0 0 0 0 0 0 0 0
                   0 0 0 0 0 0 1 1
                                                          1 1 1
                                                                       1
                                                                              1
                                                                                    1
                   0 0 0 0
                                     0
                                          0 1
                                                     1
          S_{38}
                   0 0 0 0 0 0 1 1 0 0 1 1
                                                                              1
                                                                                    1
          0
                                                                                     1
Проверка условия приводимости программы к ППФ (5 из 115):
1)\bar{\bar{y}}_1 \nrightarrow \bar{\bar{y}}_7
2)\bar{\bar{y}}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_7) = {\bar{y}_8, \bar{y}_9, \bar{y}_{10}, S_{31}, S_{34}, S_{39}, S_{40}}
N_1(\bar{y}_1,\bar{y}_7) = \{S_{34}, S_{39}, S_{40}\}
N_2(\bar{y}_1,\bar{y}_7) = \{\bar{y}_2,\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},S_{32},S_{33},S_{35},S_{36},S_{37},S_{38},\bar{y}_8,\bar{y}_9,\bar{y}_{10},S_{31}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1,ar{ar{y}}_7) — выполняется
N_1(ar{ar{y}}_1,ar{ar{y}}_7)\subseteq E(ar{ar{y}}_2) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow \bar{\bar{y}}_8
2)\bar{y}_2
E(\bar{\bar{y}}_1) = \{\bar{\bar{y}}_2, \bar{\bar{y}}_3, \bar{\bar{y}}_4, S_{12}, \bar{\bar{y}}_5, \bar{\bar{y}}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_8) = {\bar{y}_9, \bar{y}_{10}, S_{31}, S_{34}, S_{39}, S_{40}}
N_1(\bar{y}_1,\bar{y}_8) = \{S_{34}, S_{39}, S_{40}\}
N_2(\bar{y}_1,\bar{y}_8) = \{\bar{y}_2,\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},S_{32},S_{33},S_{35},S_{36},S_{37},S_{38},\bar{y}_9,\bar{y}_{10},S_{31}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1,ar{ar{y}}_8) — выполняется
N_1(\bar{y}_1,\bar{y}_8) \subseteq E(\bar{y}_2) – выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow \bar{\bar{y}}_9
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_9) = {\bar{y}_{10}, S_{31}, S_{34}, S_{40}}
N_1(\bar{\bar{y}}_1,\bar{\bar{y}}_9) = \{S_{34},S_{40}\}
N_2(\bar{y}_1,\bar{y}_9) = \{\bar{y}_2,\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},S_{32},S_{33},S_{35},S_{36},S_{37},S_{38},S_{39},\bar{y}_{10},S_{31}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1,ar{ar{y}}_9) — выполняется
N_1(\bar{\bar{y}}_1,\bar{\bar{y}}_9) \subseteq E(\bar{\bar{y}}_2) — выполняется
выполняется
1)\bar{\bar{y}}_1 \nrightarrow \bar{\bar{y}}_{10}
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\}
E(\bar{y}_{10}) = \{S_{31}, S_{40}\}\
N_1(\bar{\bar{y}}_1, \bar{\bar{y}}_{10}) = \{S_{40}\}
N_2(\bar{y}_1, \bar{y}_{10}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{31}\}
```

```
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, 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}_{10}) - \text{выполняется} N_1(\bar{y}_1, \bar{y}_{10}) \subseteq E(\bar{y}_2) - \text{выполняется} выполняется выполняется 1)\bar{y}_1 \nrightarrow S_{31} 2)\bar{y}_2 E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}, S_{40}\} E(S_{31}) = \{S_{40}\} N_1(\bar{y}_1, S_{31}) = \{S_{40}\} N_2(\bar{y}_1, S_{31}) = \{S_{40}\} N_2(\bar{y}_1, S_{31}) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}\} E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, 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, S_{31}) - \text{выполняется} N_1(\bar{y}_1, S_{31}) \subseteq E(\bar{y}_2) - \text{выполняется} Выполняется На текущей итерации был выделен паралллельный групповой оператор \bar{y}_{11} = \{S_{31}, S_{32}, S_{33}, S_{34}, S_{35}, S_{36}, S_{37}, S_{38}, S_{39}\}
```

Отношения между операторами:

```
\bar{\bar{y}}_1 \, \bar{\bar{y}}_2 \, \bar{\bar{y}}_3 \, \bar{\bar{y}}_4 \, S_{12} \, \bar{\bar{y}}_5 \, \bar{\bar{y}}_6 \, S_{19} \, \bar{\bar{y}}_7 \, \bar{\bar{y}}_8 \, \bar{\bar{y}}_9 \, \bar{\bar{y}}_{10} \, \bar{\bar{y}}_{11} \, S_{40}
                        \bar{\bar{y}}_2
            \bar{\bar{y}}_3
            \bar{y}_4
            S_{12}
                                                   1 0
            \bar{\bar{y}}_5
                                                  0 0
            \bar{y}_6
SD =
                        0 0 0 0
                                                   0 0
            \bar{\bar{y}}_8
            \bar{\bar{y}}_9
                       0 \;\; 0 \;\; 0 \;\; 0 \;\; 0 \;\; 0 \;\; 0
                       \bar{\bar{y}}_{11}
```

 $\bar{y}_1 \, \bar{y}_2 \, \bar{y}_3 \, \bar{y}_4 \, S_{12} \, \bar{y}_5 \, \bar{y}_6 \, S_{19} \, \bar{y}_7 \, \bar{y}_8 \, \bar{y}_9 \, \bar{y}_{10} \, \bar{y}_{11} \, S_{40}$ $\bar{\bar{y}}_1$ 0 1 1 1 1 1 1 1 0 0 0 0 $\bar{\bar{y}}_2$ 1 1 $\bar{\bar{y}}_3$ $\bar{ar{y}}_4$ S_{12} $\bar{\bar{y}}_5$ $0 \quad 0$ \bar{y}_6 WD = \bar{y}_7 \bar{y}_9 $\bar{\bar{y}}_{10}$ 0 0 0 0 0 0 0 0 0 0 0 0

 $\bar{\bar{y}}_1 \, \bar{\bar{y}}_2 \, \bar{\bar{y}}_3 \, \bar{\bar{y}}_4 \, S_{12} \, \bar{\bar{y}}_5 \, \bar{\bar{y}}_6 \, S_{19} \, \bar{\bar{y}}_7 \, \bar{\bar{y}}_8 \, \bar{\bar{y}}_9 \, \bar{\bar{y}}_{10} \, \bar{\bar{y}}_{11} \, S_{40}$ $\bar{\bar{y}}_2$ $\bar{\bar{y}}_3$ S_{12} $\bar{\bar{y}}_5$ \bar{y}_6 S_{19} $\bar{\bar{y}}_7$ 1 $\bar{\bar{y}}_8$ 1 1 1 1 1 1 1 $0 \ 0 \ 1$ $\bar{\bar{y}}_9$ 0 1 1 1 1 1 1 1 1 $0 \ 0 \ 0$ $0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0$

```
\bar{\bar{y}}_1 \, \bar{\bar{y}}_2 \, \bar{\bar{y}}_3 \, \bar{\bar{y}}_4 \, S_{12} \, \bar{\bar{y}}_5 \, \bar{\bar{y}}_6 \, S_{19} \, \bar{\bar{y}}_7 \, \bar{\bar{y}}_8 \, \bar{\bar{y}}_9 \, \bar{\bar{y}}_{10} \, \bar{\bar{y}}_{11} \, S_{40}
            \bar{\bar{y}}_1
                       1 0 0 0 0 0 0 0 1 1 1 1
                        0 1 0 0 0 0 0
                                                                 0
            \bar{y}_2
                        0 0 1 0
            \bar{y}_3
                                                      0 \quad 0
                                                                  0
                                                                                                         0
                        0 \ 0 \ 0 \ 1
                                                      0
                                                          0
                                                                                                         0
            \bar{y}_4
           S_{12}
            \bar{ar{y}}_5
                        0 0 0 0
                                                      1
                                                            0
                                                                         1
           \bar{\bar{y}}_6
SI =
            S_{19}
            \bar{\bar{y}}_7
                                                                  1
                                                                         0 \ 1 \ 0
            \bar{y}_8
                                                                         0
                                                                                                         0
            \bar{\bar{y}}_{9}
                        1 1
                                                            1
                                                                         0 \quad 0
                                                                                                         0
            \bar{\bar{y}}_{10}
                       0 \ 0 \ 0 \ 0 \ 0
                                                      0 \ 0
                                                                 0 0 0 0
            1)\bar{\bar{y}}_1 \nrightarrow \bar{\bar{y}}_7
2)\bar{y}_2
E(\bar{y}_1) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, \bar{y}_{11}, S_{40}\}
```

Проверка условия приводимости программы к ППФ (5 из 30):

```
E(\bar{y}_7) = \{\bar{y}_8, \bar{y}_9, \bar{y}_{10}, \bar{y}_{11}, S_{40}\}
N_1(\bar{\bar{y}}_1,\bar{\bar{y}}_7) = \{\bar{\bar{y}}_{11},S_{40}\}\
N_2(\bar{y}_1, \bar{y}_7) = \{\bar{y}_2, \bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, \bar{y}_8, \bar{y}_9, \bar{y}_{10}\}
E(\bar{y}_2) = \{\bar{y}_3, \bar{y}_4, S_{12}, \bar{y}_5, \bar{y}_6, S_{19}, \bar{y}_{11}, S_{40}\}
ar{ar{y}}_2 \in N_2(ar{ar{y}}_1,ar{ar{y}}_7) — выполняется
N_1(\bar{\bar{y}}_1,\bar{\bar{y}}_7)\subseteq E(\bar{\bar{y}}_2) — выполняется
выполняется
```

$$\begin{array}{l} 1)\bar{y}_1 \nrightarrow \bar{y}_8 \\ 2)\bar{y}_2 \\ E(\bar{y}_1) = \{\bar{y}_2,\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},\bar{y}_{11},S_{40}\} \\ E(\bar{y}_8) = \{\bar{y}_9,\bar{y}_{10},\bar{y}_{11},S_{40}\} \\ N_1(\bar{y}_1,\bar{y}_8) = \{\bar{y}_{11},S_{40}\} \\ N_2(\bar{y}_1,\bar{y}_8) = \{\bar{y}_2,\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},\bar{y}_9,\bar{y}_{10}\} \\ E(\bar{y}_2) = \{\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},\bar{y}_{11},S_{40}\} \\ \bar{y}_2 \in N_2(\bar{y}_1,\bar{y}_8) - \text{выполняется} \\ N_1(\bar{y}_1,\bar{y}_8) \subseteq E(\bar{y}_2) - \text{выполняется} \\ \text{выполняется} \end{array}$$

выполняется

$$\begin{array}{l} 1)\bar{y}_1\to\bar{y}_9\\ 2)\bar{y}_2\\ E(\bar{y}_1)=\{\bar{y}_2,\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},\bar{y}_{11},S_{40}\}\\ E(\bar{y}_9)=\{\bar{y}_{10},\bar{y}_{11},S_{40}\}\\ N_1(\bar{y}_1,\bar{y}_9)=\{\bar{y}_{11},S_{40}\}\\ N_2(\bar{y}_1,\bar{y}_9)=\{\bar{y}_2,\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},\bar{y}_{10}\}\\ E(\bar{y}_2)=\{\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},\bar{y}_{11},S_{40}\}\\ \bar{y}_2\in N_2(\bar{y}_1,\bar{y}_9)-\text{выполняется}\\ N_1(\bar{y}_1,\bar{y}_9)\subseteq E(\bar{y}_2)-\text{выполняется}\\ \text{выполняется}\\ \end{array}$$

$$\begin{array}{l} 1)\bar{y}_1\nrightarrow\bar{y}_{10}\\ 2)\bar{y}_2\\ E(\bar{y}_1)=\{\bar{y}_2,\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},\bar{y}_{11},S_{40}\}\\ E(\bar{y}_{10})=\{\bar{y}_{11},S_{40}\}\\ N_1(\bar{y}_1,\bar{y}_{10})=\{\bar{y}_{11},S_{40}\}\\ N_2(\bar{y}_1,\bar{y}_{10})=\{\bar{y}_2,\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19}\}\\ E(\bar{y}_2)=\{\bar{y}_3,\bar{y}_4,S_{12},\bar{y}_5,\bar{y}_6,S_{19},\bar{y}_{11},S_{40}\}\\ \bar{y}_2\in N_2(\bar{y}_1,\bar{y}_{10})-\text{выполняется}\\ N_1(\bar{y}_1,\bar{y}_{10})\subseteq E(\bar{y}_2)-\text{выполняется}\\ \text{выполняется} \end{array}$$

```
\begin{array}{c} 1)\bar{\bar{y}}_2 \nrightarrow \bar{\bar{y}}_7 \\ 2)\bar{\bar{y}}_3 \end{array}
  E(\bar{\bar{y}}_2) = \{\bar{\bar{y}}_3, \bar{\bar{y}}_4, S_{12}, \bar{\bar{y}}_5, \bar{\bar{y}}_6, S_{19}, \bar{\bar{y}}_{11}, S_{40}\}
     E(\bar{\bar{y}}_7) = \{\bar{\bar{y}}_8, \bar{\bar{y}}_9, \bar{\bar{y}}_{10}, \bar{\bar{y}}_{11}, S_{40}\}
\begin{split} & \Sigma(\bar{y}_{1}) = \{\bar{y}_{8}, \bar{y}_{9}, \bar{y}_{10}, \bar{y}_{11}, \bar{S}_{40}\} \\ & N_{1}(\bar{\bar{y}}_{2}, \bar{\bar{y}}_{7}) = \{\bar{\bar{y}}_{11}, S_{40}\} \\ & N_{2}(\bar{\bar{y}}_{2}, \bar{\bar{y}}_{7}) = \{\bar{\bar{y}}_{3}, \bar{\bar{y}}_{4}, S_{12}, \bar{\bar{y}}_{5}, \bar{\bar{y}}_{6}, S_{19}, \bar{\bar{y}}_{8}, \bar{\bar{y}}_{9}, \bar{\bar{y}}_{10}\} \\ & E(\bar{\bar{y}}_{3}) = \{\bar{\bar{y}}_{4}, S_{12}, \bar{\bar{y}}_{5}, \bar{\bar{y}}_{6}, S_{19}, \bar{\bar{y}}_{11}, S_{40}\} \\ & = \sum_{\bar{\bar{y}}_{11}} (\bar{\bar{y}}_{11}, \bar{\bar{y}}_{12}, \bar{\bar{y}}_{12}, \bar{\bar{y}}_{13}, \bar{\bar{y}}_{14}, \bar{\bar{y}}_{14}, \bar{\bar{y}}_{14}) \\ & = \sum_{\bar{\bar{y}}_{12}} (\bar{\bar{y}}_{12}, \bar{\bar{y}}_{12}, \bar{\bar{y}}_{12}, \bar{\bar{y}}_{13}, \bar{\bar{y}}_{14}, \bar{\bar{y}}_{14}, \bar{\bar{y}}_{14}) \\ & = \sum_{\bar{\bar{y}}_{12}} (\bar{\bar{y}}_{12}, \bar{\bar{y}}_{12}, \bar{\bar{y}}_{12}, \bar{\bar{y}}_{13}, \bar{\bar{y}}_{14}, \bar{\bar{y}}_{14}, \bar{\bar{y}}_{14}, \bar{\bar{y}}_{14}) \\ & = \sum_{\bar{\bar{y}}_{12}} (\bar{\bar{y}}_{12}, \bar{\bar{y}}_{12}, \bar{\bar{y}}_{12}, \bar{\bar{y}}_{14}, \bar
     ar{ar{y}}_3 \in N_2(ar{ar{y}}_2,ar{ar{y}}_7) — выполняется
  N_1(ar{y}_2,ar{y}_7)\subseteq E(ar{y}_3) — выполняется выполняется
```

На текущей итерации был выделен последовательный групповой оператор $\bar{y}_1=\{\bar{\bar{y}}_1,\bar{\bar{y}}_2,\bar{\bar{y}}_3,\bar{\bar{y}}_4,S_{12},\bar{\bar{y}}_5,\bar{\bar{y}}_6,S_{19}\}$

Отношения между операторами:

$$WD = \begin{bmatrix} \bar{y}_1 \, \bar{y}_7 \, \bar{y}_8 \, \bar{y}_9 \, \bar{y}_{10} \, \bar{y}_{11} \, S_{40} \\ \bar{y}_1 \\ \bar{y}_7 \\ \bar{y}_8 \\ \bar{y}_{10} \\ \bar{y}_{11} \\ S_{40} \end{bmatrix} \begin{bmatrix} 0 & 0 & 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 1 & 1 & 1 & 1 \\ 0 & 0 & 0 & 1 & 1 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 & 1 & 1 \\ 0 & 0 & 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$$

$$\mathbf{C} = \begin{bmatrix} \bar{y}_1 \ \bar{y}_7 \ \bar{y}_8 \ \bar{y}_9 \ \bar{y}_{10} \ \bar{y}_{11} \ S_{40} \\ \bar{y}_1 \\ \bar{y}_7 \\ \bar{y}_8 \\ \bar{y}_{10} \\ \bar{y}_{10} \\ \bar{y}_{11} \\ S_{40} \end{bmatrix} \begin{bmatrix} 1 & 0 & 0 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix}$$

$$SI = \begin{bmatrix} \bar{y}_1 & \bar{y}_7 & \bar{y}_8 & \bar{y}_9 & \bar{y}_{10} & \bar{y}_{11} & S_{40} \\ \bar{y}_1 & \bar{y}_7 & \begin{bmatrix} 1 & 0 & 0 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix}$$

Проверка условия приводимости программы к ППФ (2 из 2):

$$\begin{array}{l} 1)\bar{y}_1 \nrightarrow \bar{y}_9 \\ 2)\bar{y}_8 \\ E(\bar{y}_1) = \{\bar{y}_{11}, S_{40}\} \\ E(\bar{y}_9) = \{\bar{y}_{10}, \bar{y}_{11}, S_{40}\} \\ N_1(\bar{y}_1, \bar{y}_9) = \{\bar{y}_{11}, S_{40}\} \\ N_2(\bar{y}_1, \bar{y}_9) = \{\bar{y}_{11}, S_{40}\} \\ E(\bar{y}_8) = \{\bar{y}_9, \bar{y}_{10}, \bar{y}_{11}, S_{40}\} \\ \bar{y}_8 \in N_2(\bar{y}_1, \bar{y}_9) - \text{не выполняется} \\ N_1(\bar{y}_1, \bar{y}_9) \subseteq E(\bar{y}_8) - \text{выполняется} \\ \text{не выполняется} \end{array}$$

$$\begin{array}{l} 1)\bar{y}_1\nrightarrow\bar{y}_{10}\\ 2)\bar{y}_9\\ E(\bar{y}_1)=\{\bar{y}_{11},S_{40}\}\\ E(\bar{y}_{10})=\{\bar{y}_{11},S_{40}\}\\ N_1(\bar{y}_1,\bar{y}_{10})=\{\bar{y}_{11},S_{40}\}\\ N_2(\bar{y}_1,\bar{y}_{10})=\varnothing\\ E(\bar{y}_9)=\{\bar{y}_{10},\bar{y}_{11},S_{40}\}\\ \bar{y}_9\in N_2(\bar{y}_1,\bar{y}_{10})-\text{не выполняется}\\ N_1(\bar{y}_1,\bar{y}_{10})\subseteq E(\bar{y}_9)-\text{выполняется}\\ N_1(\bar{y}_1,\bar{y}_{10})\subseteq E(\bar{y}_9)-\text{выполняется} \end{array}$$

не выполняется

На текущей итерации был выделен последовательный групповой оператор $\bar{y}_2=\{\bar{\bar{y}}_7,\bar{\bar{y}}_8,\bar{\bar{y}}_9,\bar{\bar{y}}_{10}\}$

Отношения между операторами:

$$\mathrm{SD} = \begin{bmatrix} \bar{y}_1 \ \bar{y}_2 \ \bar{y}_{11} \ S_{40} \\ \bar{y}_1 \\ \bar{y}_2 \\ \bar{y}_{11} \\ S_{40} \\ \end{bmatrix} \begin{bmatrix} 0 & 1 & 1 & 1 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 \end{bmatrix}$$

$$\mathbf{WD} = \begin{bmatrix} \bar{y}_1 \ \bar{y}_2 \ \bar{\bar{y}}_{11} \ S_{40} \\ \bar{y}_1 \\ \bar{y}_2 \\ \bar{\bar{y}}_{11} \\ S_{40} \end{bmatrix} \begin{bmatrix} 0 \ 1 \ 1 \ 1 \\ 0 \ 0 \ 1 \ 1 \\ 0 \ 0 \ 0 \ 1 \\ 0 \ 0 \ 0 \ 0 \end{bmatrix}$$

$$\mathbf{C} = \begin{bmatrix} \bar{y}_1 \ \bar{y}_2 \ \bar{y}_{11} \ S_{40} \\ \bar{y}_1 \\ \bar{y}_2 \\ \bar{y}_{11} \\ S_{40} \end{bmatrix} \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$$\mathbf{SI} = \begin{array}{c} \bar{y}_1 \ \bar{y}_2 \ \bar{y}_{11} \ S_{40} \\ \\ \bar{y}_1 \\ \bar{y}_{21} \\ \\ \bar{y}_{11} \\ S_{40} \end{array} \begin{bmatrix} 1 \ 0 \ 0 \ 0 \\ 0 \ 1 \ 0 \ 0 \\ 0 \ 0 \ 1 \ 0 \\ 0 \ 0 \ 0 \ 1 \end{bmatrix}$$

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

На текущей итерации был выделен последовательный групповой оператор $\bar{y}_3 = \{\bar{y}_1, \bar{y}_2, \bar{\bar{y}}_{11}, S_{40}\}$

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}) = \emptyset
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}) = \emptyset
O(S_{19}) = \{A_{22}\}\
S_{20}
C(S_{20}) = \{a_{1133}\}\
R(S_{20}) = \{a_{11}, a_{33}\}\
I(S_{20}) = \{a_{11}, a_{33}\}\
O(S_{20}) = \{a_{1133}\}
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_{1133}, 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}\}\
```

$$S_{25}$$

$$C(S_{25}) = \{A_{31}\}$$

$$R(S_{25}) = \{a_{1223}, a_{1322}\}$$

$$I(S_{25}) = \varnothing$$

$$O(S_{25}) = \{A_{31}\}$$

$$S_{26}$$

$$C(S_{26}) = \{a_{11, a_{23}}\}$$

$$R(S_{26}) = \{a_{11, a_{23}}\}$$

$$I(S_{26}) = \{a_{11, a_{23}}\}$$

$$O(S_{26}) = \{a_{11, a_{23}}\}$$

$$O(S_{26}) = \{a_{11, a_{23}}\}$$

$$O(S_{26}) = \{a_{11, a_{23}}\}$$

$$O(S_{27}) = \{a_{13, a_{21}}\}$$

$$I(S_{27}) = \{a_{13, a_{21}}\}$$

$$I(S_{27}) = \{a_{13, a_{21}}\}$$

$$I(S_{27}) = \{a_{13, a_{21}}\}$$

$$O(S_{27}) = \{a_{13, a_{21}}\}$$

$$I(S_{28}) = \varnothing$$

$$O(S_{28}) = \{A_{32}\}$$

$$R(S_{28}) = \{a_{1123}, a_{1321}\}$$

$$I(S_{28}) = \varnothing$$

$$O(S_{28}) = \{A_{32}\}$$

$$S_{29}$$

$$C(S_{29}) = \{a_{11, a_{22}}\}$$

$$I(S_{29}) = \{a_{11, a_{22}}\}$$

$$I(S_{29}) = \{a_{11, a_{22}}\}$$

$$I(S_{29}) = \{a_{11, a_{22}}\}$$

$$I(S_{29}) = \{a_{11, a_{22}}\}$$

$$O(S_{29}) = \{a_{112, a_{21}}\}$$

$$I(S_{30}) = \{a_{12, a_{21}}\}$$

$$I(S_{30}) = \{a_{12, a_{21}}\}$$

$$I(S_{30}) = \{a_{12, a_{21}}\}$$

$$I(S_{30}) = \{a_{12, a_{21}}\}$$

$$I(S_{31}) = \varnothing$$

$$O(S_{31}) = \{A_{33}\}$$

$$R(S_{31}) = \{A_{33}\}$$

$$R(S_{31}) = \{A_{33}\}$$

$$R(S_{31}) = \{a_{112}, a_{211}\}$$

$$I(S_{31}) = \varnothing$$

$$O(S_{31}) = \{a_{11}, \Delta\}$$

$$I(S_{31}) = \varnothing$$

$$O(S_{31}) = \{a_{11}, \Delta\}$$

$$I(S_{31}) = \varnothing$$

$$O(S_{31}) = \{a_{11}, \Delta\}$$

$$I(S_{31}) = \varnothing$$

$$O(S_{32}) = \{a_{11}, \Delta\}$$

$$I(S_{33}) = \varnothing$$

$$O(S_{31}) = \{a_{11}, \Delta\}$$

$$I(S_{33}) = \varnothing$$

$$O(S_{31}) = \{a_{11}, \Delta\}$$

$$I(S_{31}) = \varnothing$$

$$O(S_{32}) = \{a_{11}, \Delta\}$$

$$I(S_{33}) = \varnothing$$

$$O(S_{31}) = \{a_{11}, \Delta\}$$

$$I(S_{31}) = \varnothing$$

$$O(S_{31}) = \{a_{11}, \Delta\}$$

$$I(S_{32}) = \varnothing$$

$$O(S_{31}) = \{a_{11}, \Delta\}$$

$$I(S_{33}) = \varnothing$$

$$O(S_{31}) = \{a_{11}, \Delta\}$$

$$I(S_{31}) = \varnothing$$

$$O(S_{31}) = \{a_{11}, \Delta\}$$

$$I(S_{32}) = \varnothing$$

$$O(S_{31}) = \{a_{11}, \Delta\}$$

$$I(S_{33}) = \varnothing$$

$$O(S_{31}) = \{a_{11}, \Delta\}$$

$$I(S_{31}) = \varnothing$$

$$O(S_{31}) = \{a_{11}, \Delta\}$$

$$I(S_{32}) = \varnothing$$

$$O(S_{33}) = \{a_{11}, \Delta\}$$

$$I(S_{33}) = \varnothing$$

$$O(S_{34}) = \{a_{11}, \Delta\}$$

$$I(S_{33}) = \varnothing$$

$$O(S_{34}) = \{a_{11}, \Delta\}$$

$$I(S_{35}) = \varnothing$$

$$O(S_{36}) = \{a_{21}, \Delta\}$$

$$I(S_{36}) = \varnothing$$

$$O(S_{36}) = \{$$

```
C(S_{37}) = \{a_{23}^{-1}\}\
R(S_{37}) = \{A_{12}, \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{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}_2) = \{A_{11}, a_{2133}, a_{2331}\}
R(\bar{y}_2) = \{a_{2233}, a_{2332}, a_{21}, a_{33}, a_{23}, a_{31}\}
I(\bar{\bar{y}}_2) = \{a_{21}, a_{33}, a_{23}, a_{31}\}
O(\bar{y}_2) = \{A_{11}, a_{2133}, a_{2331}\}
\bar{y}_3
C(\bar{y}_3) = \{A_{12}, a_{2132}, a_{2232}\}
R(\bar{y}_3) = \{a_{2133}, a_{2331}, a_{21}, a_{32}, a_{22}\}\
I(\bar{y}_3) = \{a_{21}, a_{32}, a_{22}\}\
O(\bar{y}_3) = \{A_{12}, a_{2132}, a_{2232}\}\
C(\bar{y}_4) = \{A_{13}, aA_{1111}, aA_{1212}\}\
R(\bar{\bar{y}}_4) = \{a_{2132}, a_{2232}, a_{11}, A_{11}, a_{12}, A_{12}\}
I(\bar{y}_4) = \{a_{11}, a_{12}\}\
O(\bar{y}_4) = \{A_{13}, aA_{1111}, aA_{1212}\}\
C(\bar{\bar{y}}_5) = \{\Delta, a_{1233}, a_{1332}\}\
R(\bar{y}_5) = \{aA_{1111}, aA_{1212}, aA_{1313}, a_{12}, a_{33}, a_{13}, a_{32}\}
I(\bar{y}_5) = \{a_{12}, a_{33}, a_{13}, a_{32}\}
O(\bar{y}_5) = \{\Delta, a_{1233}, a_{1332}\}
\bar{y}_6
C(\bar{y}_6) = \{A_{21}, a_{1133}, a_{1331}\}\
R(\bar{y}_6) = \{a_{1233}, a_{1332}, a_{11}, a_{33}, a_{13}, a_{31}\}\
I(\bar{y}_6) = \{a_{11}, a_{33}, a_{13}, a_{31}\}\
O(\bar{y}_6) = \{A_{21}, a_{1331}\}
C(\bar{y}_7) = \{a_{1133}, a_{1231}\}
R(\bar{y}_7) = \{a_{11}, a_{33}, a_{12}, a_{31}\}
I(\bar{y}_7) = \{a_{11}, a_{33}, a_{12}, a_{31}\}
O(\bar{y}_7) = \{a_{1133}, a_{1231}\}
C(\bar{\bar{y}}_8) = \{A_{23}, a_{1223}, a_{1322}\}\
R(\bar{\bar{y}}_8) = \{a_{1133}, a_{1231}, a_{12}, a_{23}, a_{13}, a_{22}\}
I(\bar{y}_8) = \{a_{12}, a_{23}, a_{13}, a_{22}\}
O(\bar{y}_8) = \{A_{23}, a_{1223}, a_{1322}\}
C(\bar{y}_9) = \{A_{31}, a_{1123}, a_{1321}\}
```

```
R(\bar{y}_9) = \{a_{1223}, a_{1322}, a_{11}, a_{23}, a_{13}, a_{21}\}
 I(\bar{y}_9) = \{a_{11}, a_{23}, a_{13}, a_{21}\}\
 O(\bar{y}_9) = \{A_{31}, a_{1123}, a_{1321}\}\
 \bar{y}_{10}
 C(\bar{y}_{10}) = \{A_{32}, a_{1122}, a_{1221}\}\
 R(\bar{y}_{10}) = \{a_{1123}, a_{1321}, a_{11}, a_{22}, a_{12}, a_{21}\}
 I(\bar{y}_{10}) = \{a_{11}, a_{22}, a_{12}, a_{21}\}
 O(\bar{\bar{y}}_{10}) = \{A_{32}, a_{1122}, a_{1221}\}\
\begin{split} &C(\bar{\bar{y}}_{11}) = \{A_{33}, a_{11}^{-1}, a_{12}^{-1}, a_{13}^{-1}, a_{21}^{-1}, a_{22}^{-1}, a_{23}^{-1}, a_{31}^{-1}, a_{32}^{-1}\} \\ &R(\bar{\bar{y}}_{11}) = \{a_{1122}, a_{1221}, A_{11}, \Delta, A_{21}, A_{31}, A_{12}, A_{22}, A_{13}, A_{23}\} \end{split}
O(\bar{\bar{y}}_{11}) = \{A_{33}, a_{11}^{-1}, a_{12}^{-1}, a_{13}^{-1}, a_{21}^{-1}, a_{22}^{-1}, a_{23}^{-1}, a_{31}^{-1}, a_{32}^{-1}\}
 C(\bar{y}_1) = \{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_{12}, aA_{1313}, A_{1313}, A_{1
  R(\bar{y}_1) = \{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}, a_{1233}, a_{1332}, a_{1133}, a_{1331}
 I(\bar{y}_1) = \{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}, a_{1233}, a_{1332}, a_{1133}, a_{1331}
 O(\bar{y}_1) = \{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_{1331}, A_{22}\}
 C(\bar{y}_2) = \{a_{1133}, a_{1231}, A_{23}, a_{1223}, a_{1322}, A_{31}, a_{1123}, a_{1321}, A_{32}, a_{1122}, a_{1221}\}
 R(\bar{y}_2) = \{a_{11}, a_{33}, a_{12}, a_{31}, a_{1133}, a_{1231}, a_{23}, a_{13}, a_{22}, a_{1223}, a_{1322}, a_{21}, a_{1123}, a_{1321}\}
 I(\bar{y}_2) = \{a_{11}, a_{33}, a_{12}, a_{31}, a_{1231}, a_{23}, a_{13}, a_{22}, a_{1223}, a_{1322}, a_{21}, a_{1123}, a_{1321}\}
 O(\bar{y}_2) = \{a_{1133}, a_{1231}, A_{23}, a_{1223}, a_{1322}, A_{31}, a_{1123}, a_{1321}, A_{32}, a_{1122}, a_{1221}\}
C(\bar{y}_3) = \{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_{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_{32}^{-1}, a_{33}^{-1}\}
  R(\bar{y}_3) = \{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_{1
 aA_{1313}, a_{1233}, a_{1332}, a_{1133}, a_{1331}, a_{1231}, a_{1223}, a_{1322}, a_{1123}, a_{1321}, a_{1122}, a_{1221}, \Delta, A_{21}, A_{31}, A_{22}, A_{23}, A_{33}\}
 I(\bar{y}_3) = \{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_{1
 aA_{1313}, a_{1233}, a_{1332}, a_{1133}, a_{1331}, a_{1231}, a_{1223}, a_{1322}, a_{1123}, a_{1321}, a_{1122}, a_{1221}, \Delta, A_{21}, A_{31}, A_{22}, A_{23}, A_{33}\}
 O(\bar{y}_3) = \{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_{12}, a_{1233}, a_{12
 A_{22}, 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_{32}^{-1}, a_{33}^{-1}\}
```