Мирзаитов Тимур Курсовая работа часть №2 Вариант 75

C=(A+1) mod25

Где А= (а1, а2, а3, а4, а5), С= (С0, С1, С2, С3, С4)

# Составлениетаблицы истинности

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| a1 | a2 | a3 | a4 | a5 | c0 | c1 | c2 | c3 | c4 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 |
| 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 |

# Минимизация булевых функций системы

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | a1a2 |  |  |  |  |  |  | a1a2 |  |  |  |  |
| a3a4 |  | 00 | 01 | 11 | 10 |  | a3a4 |  | 00 | 01 | 11 | 10 |
|  | 00 |  |  |  | 1 |  |  | 00 |  |  |  | 1 |
|  | 01 |  |  |  | 1 |  |  | 01 |  |  |  | 1 |
|  | 11 |  |  |  | 1 |  |  | 11 |  | 1 |  | 1 |
|  | 10 |  |  |  | 1 |  |  | 10 |  |  |  | 1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | a5=0 |  |  |  |  |  |  | a5=1 |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | a1a2 |  |  |  |  |  | a1a2 |  |  |  |  |
| a3a4 |  | 00 | 01 | 11 | 10 | a3a4 |  | 00 | 01 | 11 | 10 |
|  | 00 |  | 1 |  |  |  | 00 |  | 1 |  |  |
|  | 01 |  | 1 |  |  |  | 01 |  | 1 |  |  |
|  | 11 |  | 1 |  |  |  | 11 | 1 |  |  | 1 |
|  | 10 |  | 1 |  |  |  | 10 |  | 1 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | a5=0 |  |  |  |  |  | a5=1 |  |  |  |

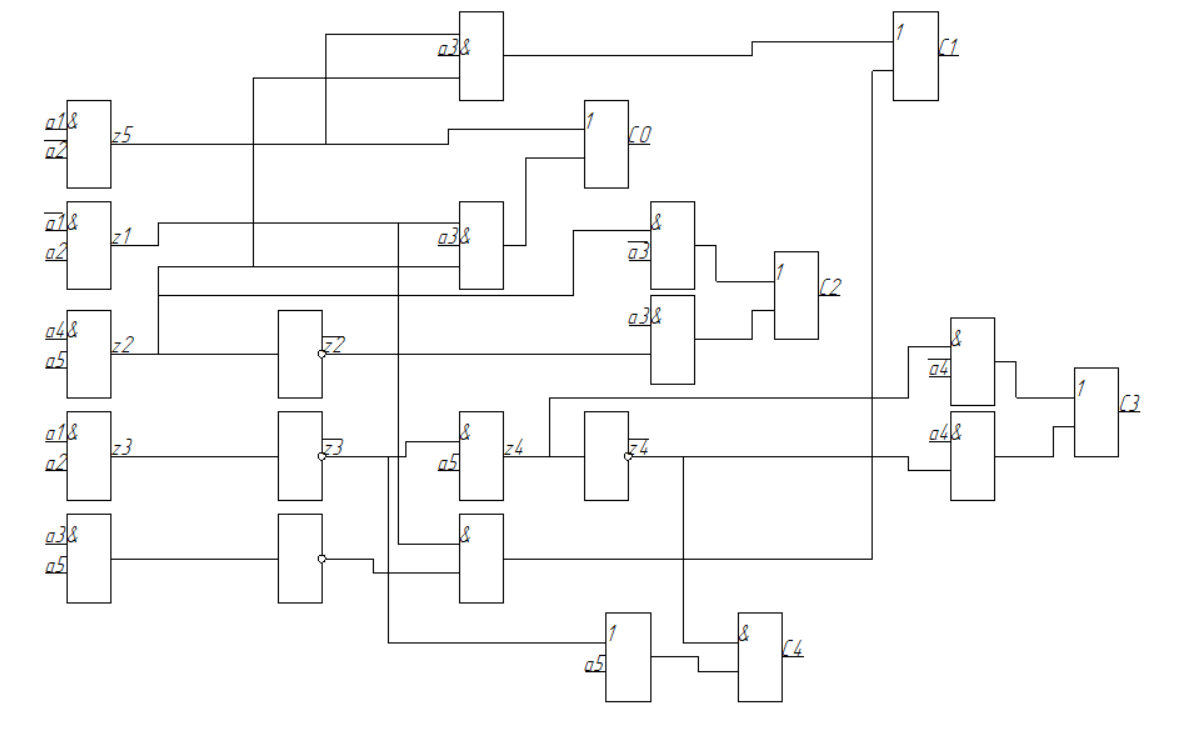
|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | a1a2 |  |  |  |  |  | a1a2 |  |  |  |  |
| a3a4 |  | 00 | 01 | 11 | 10 | a3a4 |  | 00 | 01 | 11 | 10 |
|  | 00 |  |  |  |  |  | 00 |  |  |  |  |
|  | 01 |  |  |  |  |  | 01 | 1 | 1 | 1 | 1 |
|  | 11 | 1 | 1 | 1 | 1 |  | 11 |  |  |  |  |
|  | 10 | 1 | 1 | 1 | 1 |  | 10 | 1 | 1 | 1 | 1 |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | a5=0 |  |  |  |  |  | a5=1 |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | a1a2 |  |  |  |  |  | a1a2 |  |  |  |  |
| a3a4 |  | 00 | 01 | 11 | 10 | a3a4 |  | 00 | 01 | 11 | 10 |
|  | 00 |  |  |  |  |  | 00 | 1 | 1 |  | 1 |
|  | 01 | 1 | 1 | 1 | 1 |  | 01 |  |  | 1 |  |
|  | 11 | 1 | 1 | 1 | 1 |  | 11 |  |  | 1 |  |
|  | 10 |  |  |  |  |  | 10 | 1 | 1 |  | 1 |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | a5=0 |  |  |  |  |  | a5=1 |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | a1a2 |  |  |  |  |  | a1a2 |  |  |  |  |
| a3a4 |  | 00 | 01 | 11 | 10 | a3a4 |  | 00 | 01 | 11 | 10 |
|  | 00 | 1 | 1 |  | 1 |  | 00 |  |  | 1 |  |
|  | 01 | 1 | 1 |  | 1 |  | 01 |  |  | 1 |  |
|  | 11 | 1 | 1 |  | 1 |  | 11 |  |  | 1 |  |
|  | 10 | 1 | 1 |  | 1 |  | 10 |  |  | 1 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | a5=0 |  |  |  |  |  | a5=1 |  |  |  |

# Преобразование минимальных форм булевых функций системы

# Синтез многовыходной комбинационной схемы в булевом базисе



# Анализ многовыходной комбинационной схемы

На рисунке показано определение реакции схемы на входной набор (01000). Значение выходного набора (01001) соответствует таблице истинности, что подтверждает корректность построенной схемы, по крайней мере, в отношении рассматриваемого набора.

