***Задание №2:* Синтез переключательных схем**

В соответствии с таблицей состояний спроектировать счетную схему на триггерах. Предпочтение следует отдавать более простым в реализации триггерам: D-типа и Т-типа. Таблицы переключений выбираются в соответствии с назначенным вариантом

Вариант №1

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 0 | 0 |
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 0 | 1 |

Вариант №4

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 0 | 0 |
| 0 | 0 | 1 |
| 1 | 0 | 1 |
| 0 | 1 | 0 |
| 0 | 1 | 1 |

Вариант №7

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 0 | 0 | 1 |
| 1 | 1 | 0 |
| 1 | 0 | 1 |

Вариант №10

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 0 |
| 1 | 1 | 1 |
| 1 | 0 | 1 |

Вариант №13

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 0 | 1 |
| 1 | 0 | 0 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |
| 1 | 0 | 1 |

Вариант №16

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 1 | 1 | 1 |
| 0 | 1 | 0 |
| 0 | 0 | 1 |
| 0 | 0 | 0 |
| 1 | 1 | 0 |

Вариант №19

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 1 | 0 | 0 |
| 1 | 1 | 0 |
| 0 | 1 | 0 |
| 0 | 0 | 1 |
| 0 | 0 | 0 |

Вариант №2

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 0 | 0 |
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

Вариант №5

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 0 | 0 |
| 1 | 1 | 0 |
| 0 | 1 | 0 |
| 0 | 0 | 1 |
| 1 | 0 | 0 |

Вариант №8

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 0 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |
| 0 | 1 | 1 |
| 0 | 0 | 1 |

Вариант №11

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 0 | 1 |
| 1 | 1 | 1 |
| 1 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 1 |

Вариант №14

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 1 | 0 | 0 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |
| 0 | 1 | 1 |
| 0 | 1 | 0 |

Вариант №17

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 1 | 1 |
| 0 | 0 | 1 |
| 0 | 0 | 0 |
| 1 | 0 | 0 |
| 1 | 0 | 1 |

Вариант №20

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 1 | 1 | 0 |
| 0 | 1 | 1 |
| 1 | 1 | 1 |
| 1 | 0 | 0 |
| 1 | 0 | 1 |

Вариант №3

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 0 |
| 1 | 1 | 1 |

Вариант №6

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 0 |
| 1 | 0 | 1 |

Вариант №9

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 0 |
| 1 | 0 | 1 |

Вариант №12

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 0 | 1 |
| 1 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 1 | 0 |
| 1 | 0 | 0 |

Вариант №15

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |
| 1 | 0 | 0 |
| 0 | 1 | 1 |
| 0 | 1 | 0 |

Вариант №18

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 1 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 0 |
| 1 | 0 | 1 |

Вариант №21

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 1 | 0 | 0 |
| 1 | 0 | 1 |
| 0 | 1 | 0 |
| 0 | 0 | 1 |
| 1 | 1 | 0 |

Вариант №22

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 1 | 0 | 1 |
| 0 | 0 | 1 |
| 0 | 0 | 1 |
| 1 | 1 | 0 |
| 1 | 0 | 1 |

Вариант №23

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 1 | 1 | 0 |
| 0 | 1 | 1 |
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 1 |

Вариант №24

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 1 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 1 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 0 |

Вариант №25

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 0 | 1 |
| 1 | 0 | 0 |
| 0 | 0 | 1 |
| 1 | 1 | 0 |
| 1 | 0 | 1 |

Вариант №26

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 1 | 1 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 1 | 0 |

Вариант №27

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 1 | 0 | 1 |
| 1 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 1 |
| 0 | 0 | 0 |

Вариант №28

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 0 | 1 | 1 |
| 1 | 0 | 0 |
| 0 | 0 | 1 |
| 1 | 1 | 1 |
| 1 | 0 | 0 |

Вариант №29

|  |  |  |
| --- | --- | --- |
| Q1 | Q2 | Q3 |
| 1 | 1 | 1 |
| 0 | 0 | 1 |
| 1 | 0 | 1 |
| 0 | 0 | 0 |
| 1 | 1 | 0 |