田野

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(a)

There are four useful values for variable elements, which are:

[null, null]

[obj, null]

[null, obj]

[obj, obj]

(b)

Only the elements front, and back will determine the states, so there are 16 states, which are:

1 [[null, null], 0, 0, 0]

2 [[null, null], 0, 0, 1]

3 [[null, null], 0, 1, 0]

4 [[null, null], 0, 1, 1]

5 [[obj, null], 1, 0, 0]

6 [[obj, null], 1, 0, 1]

7 [[obj, null], 1, 0, 1]

8 [[obj, null], 1, 1, 1]

9 [[null, obj], 1, 0, 0]

10 [[null, obj], 1, 0, 1]

11 [[null, obj], 1, 1, 0]

12 [[null, obj],1, 1, 1]

13 [[obj, obj], 2, 0, 0]

14 [[obj, obj], 2, 0, 1]

15 [[obj, obj], 2, 1, 0]

16 [[obj, obj], 2, 1, 1]

(c)

1 [[null, null], 0, 0, 0]

2 [[obj, null], 1, 0, 1]

3 [[obj, obj], 2, 0, 0]

4 [[null, obj], 1, 1, 0]

5 [[obi, obj], 2, 1, 1]

6 [[null, null], 0, 1, 1]

(d)

手机屏幕的截图

描述已自动生成

(e)

黑色的手机屏幕

描述已自动生成

(f)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| method call | elements | size | front | back |
|  | null, null | 0 | 0 | 0 |
| enqueue | obj, null | 1 | 0 |  |
| enqueue | obj, obj | 2 | 0 | 0 |
| dequeue | null, obj | 1 | 1 | 0 |
| enqueue | obj, obj | 2 | 2 | 1 |
| dequeue | null, obj | 1 | 1 | 0 |
| dequeue | null, null | 0 | 0 | 0 |
| enqueue | obj, null | 1 | 0 | 1 |
| dequeue | null, null | 0 | 1 | 1 |
| enqueue | null, obj | 1 | 1 | 0 |
| dequeue | null, null | 0 | 0 | 0 |