**a) Breadth- first Search**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Left** | **River** | **Right** |
| Initial State | 3M,3C | B ← | 0M,0C |
|  | 3M,1C | → B | 0M, 2C |
|  | 3M, 2C | B ← | 0M, 1C |
|  | 3M, 0C | → B | 0M, 3C |
|  | 3M, 1C | B ← | 0M, 2C |
|  | 1M, 1C | → B | 2M, 2C |
|  | 2M, 2C | B ← | 1M, 1C |
|  | 0M, 2C | → B | 3M, 1C |
|  | 0M, 3C | B ← | 3M, 0C |
|  | 0M, 1C | → B | 3M, 2C |
|  | 0M, 2C | B ← | 3M, 1C |
|  | 0M, 0C | → B | 3M, 3C |

**a) Depth-first Search**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Left** | **River** | **Right** |
| Initial State | 3M,3C | B ← | 0M,0C |
|  | 2M, 2C | → B | 1M, 1C |
|  | 3M, 2C | B ← | 0M, 1C |
|  | 3M, 0C | → B | 0M, 3C |
|  | 3M, 1C | ← B | 0M, 2C |
|  | 1M, 1C | → B | 2M, 2C |
|  | 2M, 2C | B ← | 1M, 1C |
|  | 0M, 2C | → B | 3M, 1C |
|  | 0M, 3C | ← B | 3M, 0C |
|  | 0M, 1C | → B | 3M, 2C |
|  | 1M, 1C | ← B | 2M, 2C |
|  | 0M, 0C | → B | 3M, 3C |