**CIRCULAR QUEUES**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **size =8**  **operations** | **[0]** | **[1]** | **[2]** | **[3]** | **[4]** | **[5]** | **[6]** | **[7]** | **front index** | **rear index** |
| queue is empty |  |  |  |  |  |  |  |  |  |  |
| enqueue(10) | **10** |  |  |  |  |  |  |  | 0 | 0 |
| enqueue(20) | **10** | **20** |  |  |  |  |  |  | **0** | **1** |
| enqueue(30) | **10** | **20** | **30** |  |  |  |  |  | **0** | **2** |
| enqueue(40) | **10** | **20** | **30** | **40** |  |  |  |  | **0** | **3** |
| enqueue(50) | **10** | **20** | **30** | **40** | **50** |  |  |  | **0** | **4** |
| enqueue(60) | **10** | **20** | **30** | **40** | **50** | **60** |  |  | **0** | **5** |
| enqueue(70) | **10** | **20** | **30** | **40** | **50** | **60** | **70** |  | **0** | **6** |
| enqueue(80) | **10** | **20** | **30** | **40** | **50** | **60** | **70** | **80** | **0** | **7** |
| enqueue(90) | **overflow** | | | | | | | | **0** | **7** |
| dequeue() |  | **20** | **30** | **40** | **50** | **60** | **70** | **80** | **1** | **7** |
| dequeue() |  |  | **30** | **40** | **50** | **60** | **70** | **80** | **2** | **7** |
| dequeue() |  |  |  | **40** | **50** | **60** | **70** | **80** | **3** | **7** |
| dequeue() |  |  |  |  | **50** | **60** | **70** | **80** | **4** | **7** |
| enqueue(90) | **90** |  |  |  | **50** | **60** | **70** | **80** | **4** | **0** |
| enqueue(100) | **90** | **100** |  |  | **50** | **60** | **70** | **80** | **4** | **1** |
| enqueue(110) | **90** | **100** | **110** |  | **50** | **60** | **70** | **80** | **4** | **2** |
| dequeue() | **90** | **100** | **110** |  |  | **60** | **70** | **80** | **5** | **2** |
| dequeue() | **90** | **100** | **110** |  |  |  | **70** | **80** | **6** | **2** |
| dequeue() | **90** | **100** | **110** |  |  |  |  | **80** | **7** | **2** |
| enqueue(120) | **90** | **100** | **110** | **120** |  |  |  | **80** | **7** | **3** |
| dequeue() | **90** | **100** | **110** | **120** |  |  |  |  | **0** | **3** |
| dequeue() |  | **100** | **110** | **120** |  |  |  |  | **1** | **3** |
| dequeue() |  |  | **110** | **120** |  |  |  |  | **2** | **3** |
| dequeue() |  |  |  | **120** |  |  |  |  | **3** | **3** |
| dequeue() |  |  |  |  |  |  |  |  | **0** | **0** |
| enqueue(130) | **130** |  |  |  |  |  |  |  | **0** | **0** |