3

Develop Circular Queue source code using array with size = 5. It consists of ***front*** and ***rear*** of this queue which can be used to remove, and add the data, respectively.

There are 2 operations as follows.

1) Enqueue: add the data at ***rear*** position to this queue.
2) Dequeue: remove the data at ***front*** position from this queue.

- When enqueue/dequeue operations are called, ***front*** and ***rear*** positions will be shown in the console as follows.

f:***front*** r:***rear***

- ***front***, and ***rear*** are initialized as 2, and 1, respectively.

Input command code are shown as follows.

Input	Description
e 10	- Enqueue 10 to Circular Queue at ***rear*** position. Then, shows ***front*** and ***rear***. - If queue is full, "Queue Full" will be shown in the console. Then, ***front*** and ***rear*** values are shown in the same line.
d	- Dequeue and show the data at ***front*** position of Circular Queue. Then, shows ***front*** and ***rear*** in the same line. - If queue is empty, "Queue Empty" will be shown in the same line.
x	- Exit

Example

Input	Output
e 10 e 20	f:2 r:2 f:2 r:3

e 30 d d d x	f:2 r:4 10 f:3 r:4 20 f:4 r:4 30 f:0 r:4
d e 10 e 20 d d d e 30 x	Queue Empty f:2 r:1 f:2 r:2 f:2 r:3 10 f:3 r:3 20 f:4 r:3 Queue Empty f:4 r:3 f:4 r:4
e 10 e 20 e 30 e 40 e 50 d d d d d x	f:2 r:2 f:2 r:3 f:2 r:4 f:2 r:0 f:2 r:1 10 f:3 r:1 20 f:4 r:1 30 f:0 r:1 40 f:1 r:1 50 f:2 r:1
e 10 e 20 e 30 e 40 e 50 e 60 e 70 d d	f:2 r:2 f:2 r:3 f:2 r:4 f:2 r:0 f:2 r:1 Queue Full f:2 r:1 Queue Full f:2 r:1 10 f:3 r:1 20 f:4 r:1

x	
d e 10 e 20 e 30 e 40 e 50 e 60 d d d d d d x	Queue Empty f:2 r:1 f:2 r:2 f:2 r:3 f:2 r:4 f:2 r:0 f:2 r:1 Queue Full f:2 r:1 10 f:3 r:1 20 f:4 r:1 30 f:0 r:1 40 f:1 r:1 50 f:2 r:1 Queue Empty f:2 r:1