Tutorial 06

01. What is circular queue?

A circular queue is the extended version of a regular queue where the last element is connected to the first element. The circular queue solves the major limitation of the normal queue.

02. What are the characteristics of the circular queue?

Circular structure
Fixed size
Front and rear pointers
Enqueue operation
Dequeue operation
Overflow and underflow
Efficient operations

03. Give applications of circular queue.

Memory management - Circular queue is used in memory management
Process scheduling - A CPU uses a queue to schedule processes
Traffic system - Circular queues are also used in traffic system

04. What is algorithm of circular queue?

Initialize the queue
Enqueue (insertion)
Dequeue (delection)
Get the front element
Check if the queue is empty
Check if the queue is full

05. Write a simple program of circular queues?

06 Compare and contrast linear queue and circular queue.

Linear queue	Circular queue
• Requires more memory space.	Requires less memory space.
• Less efficient	More efficient
• Not suitable for real time system where overflow can lead to data loss.	Suitable for real time system where continuous data insertion is required.
• It arrange data in linear order.	It arranges data in circular order.