

DSA using Python

Queue



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Agenda

- ① What is a queue?
- ② Operations on queue
- ③ Real world examples
- ④ Programming examples
- ⑤ Implementation of Queue

What is a Queue?

Queue is a linear data structure.

Working principle of Queue is

First In First Out (FIFO)

rear (insertion) = ~~8~~ 9

ADT

front (deletion) = ~~2~~ 4

①

② ③



Queue

Operations on Queue

enqueue

dequeue

is_empty

get_front

get_rear

size

Real World Examples of Queue

- ① Queue for roller coaster ride in an amusement park
- ② Shuttlecock (Badminton) in a cylindrical box



Programming Examples

- ① Print tasks in a printer
- ② Admission module to implement first come first serve
- ③ Breadth First Search

Implementation of Queue

- ①[★] using list
- ② by extending list class
- ③ using singly linked list class
- ④ by extending singly linked list class
- ⑤[★] using linked list concept