* Data Structure Lab (DSL):- Practical Number - 12 (Group - E)

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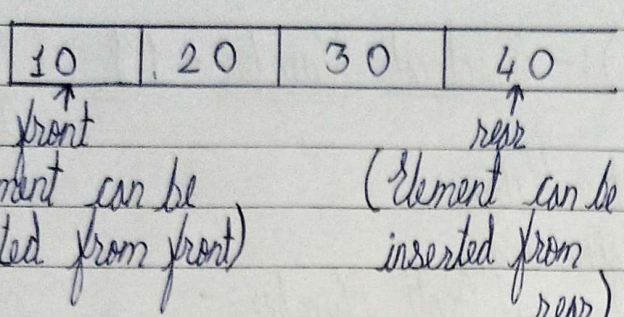
Title:- Simulating Job Queue.

Aim:- Write a C++ program for simulating job queues. Write functions to add job and delete job from queue.

Objective:-
1. To study the concepts of Queues
2. To understand operations on Queues.

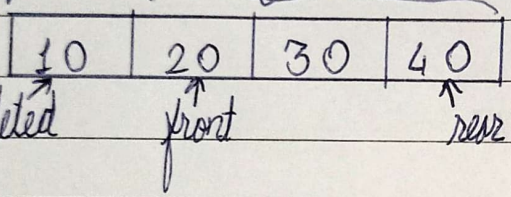
Theory:-
- Definition Queue:- It is an ordered collection of elements that has two named ends → front and rear, from the front end one can delete elements and from rear end can insert elements.
- Queue is also called as FIFO i.e. First In First Out.
- All elements are stored sequentially.
- Insertion of element:- Insertion of any element in the queue will always take place from the rear end.



Order of Insertion
① 10
② 20
③ 30
④ 40

- Deletion of element -

Deletion of any element in the queue takes by the front end always



Number 10 gets deleted logically

Before performing delete operation check whether the queue is empty or not.

Algorithm :-

Step 1: Start
Step 2: Define structure for queue.
Step 3: Read choice.
Step 4: If choice = insert
i) read the element
ii) create a data structure.
iii) if empty queue then front of queue pointer points to newly created data structure.
iv) otherwise end of the queue points to newly created data structure
Step 5: If choice = remove
i) check if queue is empty, if so, print queue is empty.
ii) front of queue points next element.
iii) free element pointed
iv) by temp. pointer
v) return the element
vi) Print the element.

Step 6: If choice = display
i) check of empty queue if so print queue empty.
ii) otherwise print the elements from front of the queue until the end of the queue.

Step 7: If choice = exit
Stop.

Program :-

Output :-

Conclusion :-
Performed adding and removing from Queue.