# Assignment - 3

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course Name : Datastructure for stack Overflow

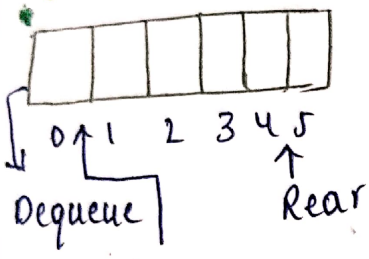
course code : CSA0389

Submission date : 21-08-2024

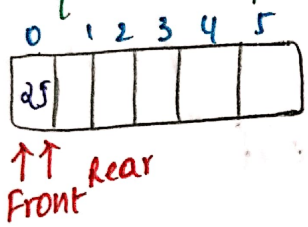
Department : CSE-AI

Illustrate the Queue operation using following function calls of size = 5, Enqueue (25), Dequeue (37), Enqueue (90) Dequeue (), Enqueue (15), Enqueue (40), Enqueue (12), Dequeue (), Dequeue (), Dequeue (), Dequeue ()

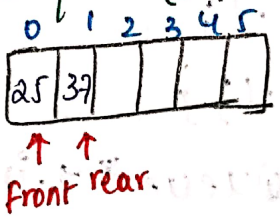
Queue :



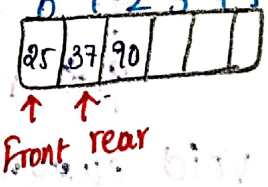

Enqueue (25) :



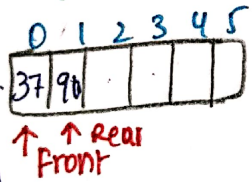

Enqueue (37) :-




Enqueue (90) :-

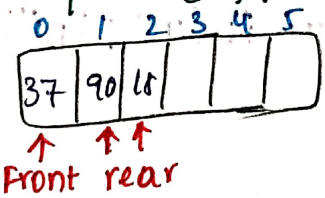



Dequeue () :

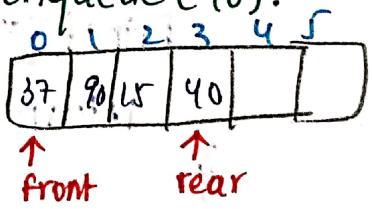



Dequeue (25)

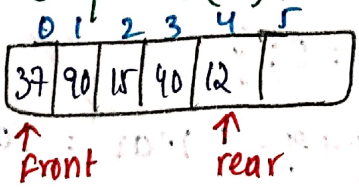
Enqueue (15) :-



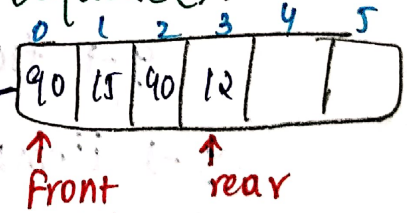

Enqueue (40) :-




Enqueue (12) :-

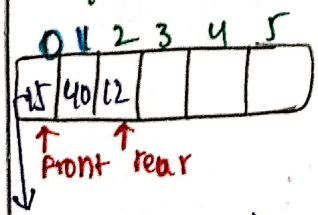



Dequeue () :-



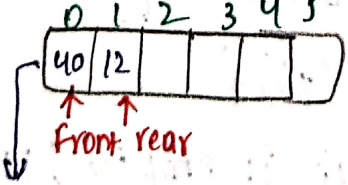

Dequeue (37)

Dequeue () :



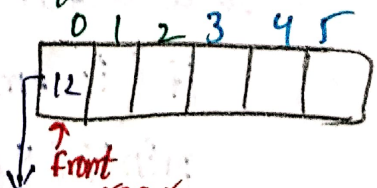

Dequeue (90)

Dequeue () :-




Dequeue (15)

Dequeue () :-




Dequeue (40)

2) Write a C program to implement Queue operations such as Enqueue, Dequeue and Display.

```
#include <stdio.h>
#include <stdlib.h>
#define MAX 5
type def struct {
    int items [MAX];
int front, rear; } Queue;
void initialize (Queue *q) {
    q→ front = -1;
    q→ rear = -1; }
void enqueue (Queue *q, int value){
    if (is full (q)) {
    Printf ("Queue is full ! \n");
     return ;
    }
if (q→ return front == -1) {
    q→ front = 0; }
 q→ items [t+q→ rear] = value;
print f ("%d enqued to queue \n", value)
void dequeue (Queue *q) {
 if ( is empty (q)) {
 printf ("Queue is empty ! \n");
 return ;
```

```
    }
printf("%d dequeued from Queue\n", q->item[q->front]);
    }
void display(Queue *q) {
if(isempty(q)){
if(isempty(q)){
  printf("Queue is empty!\n");
   return;}
  Printf("Queue elements are:");
for(int i=q->front; i<=q->rear; i++){
   printf("%d", q->items[i]);
   }
   printf("\n");
   }
int main(){
    Queue q;
    initialize(&q);
    enqueue()
    dequeue()
   display()
   return 0;
}
```

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