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LINEAR QUEUE IMPLEMENTATION

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```c
/*
Linear Queue Impmelaintaction
*/

#include<stdio.h>
#define N 5

int queue[N];
int front=-1,rear=-1;

void enque();
void deque();
void display();
void peek();

int main(){
        int choice;
        do{
                printf("\n***Queue Operations***\n");
                printf("1. Enque\n");
                printf("2. Deque\n");
                printf("3. Peek\n");
                printf("4. Display\n");
                printf("0 To Exit\n");
                printf("Enter Choice");
                scanf("%d",&choice);
                switch(choice){
                        case 1:
```

```
                                enque();
                                break;
                        case 2:
                                deque();
                                break;
                        case 3:
                                peek();
                                break;
                        case 4:
                                display();
                                break;
                        default:
                                printf("\n!!Wrong choice!!\n");
                }
        }while(choice!=0);
        return 0;
}

void enque(){
        int x;
        if(rear==N-1){
                printf("\noverflow\n");
        }
        else if(front==-1 && rear==-1){
                front++;
                rear++;
                printf("Enter x ");
                scanf("%d",&x);
                queue[rear]=x;
        }
        else{
                rear++;
                printf("Enter x ");
                scanf("%d",&x);
                queue[rear]=x;
        }
}

void deque(){
        if(front==-1&&rear==-1){
                printf("\nQueue is Empty\n");
        }
        else if(front==rear){
```

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72.                 front=rear=-1;
73.                 printf("\nDeleted successfully\n");
74.         }
75.         else{
76.                 front++;
77.                 printf("\nDeleted successfully\n");
78.         }
79. }
80.
81. void peek(){
82.         if(front==-1 && rear==-1){
83.                 printf("\n Queue is Empty\n");
84.         }
85.         else{
86.                 printf("%d",queue[front]);
87.         }
88. }
89.
90. void display(){
91.         int i;
92.         if(front==-1 && rear==-1){
93.                 printf("\nQueue is Empty\n");
94.         }
95.         else{
96.                 for(i=front;i<=rear;i++){
97.                         printf("%d ",queue[i]);
98.                 }
99.         }
100. }
```

OUTPUT