IBM19CS006

16/10/20 Lab 3 - Linear Queue

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#include<stdio.h>
#include<stdlib.h>
#define MAX 5

int enque(int queue[MAX], int *rear, int *data)
{
if(*rear ==MAX-1)

void enque(int [], int, int*);
void deque(int[], int*, int*);
void display(int [], int*, int*);
int main()
{
int queue[MAX]; choice ele, rear=-1, front=0;
do{
printf("Enter your choice: \n");
printf("1. Insert \n");
printf("2. Delete \n");
printf("3. Display \n");
printf("4. Exit \n");
scanf("%d", &choice);
switch(choice)
{
case 1: printf("Enter element to be inserted: \n");
        scanf("%d", &ele);
        enque(queue, ele, &rear);
        break;
```

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case 2: dequeue (queue, &rear, &front);
        break;

case 3: display (queue, &rear, &front);
        break;

case 4: exit(0);
}
} while (choice != 4);
return 0;
}

void enque (int queue[], int ele, int *rear)
{
if (*rear == MAX-1)
{
printf ("Queue full \n");
}
else {
(*rear)++;
queue [*rear] = ele;
}
}

void deque (int queue[], int *rear, int *front)
{
if ((*rear) == -1 && (*front) == 0))
printf ("Queue empty \n");
else {
printf ("Deleted element is : %d \n", queue,
[*front]);
```

```
(*front)++;
if ((*front) > (*rear))
{
  (*front) = 0;
  (*rear) = -1;
}
}
}

void display (int queue[], int *rear, int *front)
{ int i;
printf ("Queue elements are : \n");
for (i = (*front); i <= (*rear); i++)
{
  printf ("%d", queue[i]);
}
printf ("\n");
}
```