PROGRAM-7

CODE:

```c
#include<stdlib.h>
#define max 20
int insertq ( int queue[max], int *rear , int *data);
int delq( int queue[max], int *front, int *rear , int *data);
int main()
{
    int queue[max],data;
    int front,rear,ans,choice;
    front = rear = -1;
    printf("Menu");
    printf("\n 1. Insert element in queue");
    printf("\n 2. Delete element from queue");
    printf("\n 3. Quit");
    printf("\n");
    while(1)
    {
        printf("\nChoose option: ");
        scanf("%d",&choice);
        switch(choice)
        {
            case 1 :
                    printf("\nEnter Input : ");
                    scanf("%d",&data);
                    ans=insertq(queue,&rear,&data);
                    if (ans==-1)
                        printf("Queue is full");
                    else
                        printf("%d is added to the queue.\n",data);
                    break;
            case 2 :
```

```c
                        case 2 :
                                ans=delq(queue,&front,&rear,&data);
                                if (ans==-1)
                                        printf("Queue is empty");
                                else
                                        printf("\nDeleted element is : %d\n", data);
                                break;
                        case 3 : exit(0);
                }
        }
}
int insertq ( int queue[max], int *rear , int *data)
{
        if ( *rear == max -1 )
                return(-1);
        else
        {
                *rear = *rear + 1;
                queue[*rear] = *data;
                return(1);
        }
}
int delq( int queue[max], int *front, int *rear , int *data)
{
        if ( *front == *rear)
                return(-1);
        else
        {
                (*front)++;
                *data = queue[*front];
                return(1);
        }
}
```

OUTPUT:

```
Menu
 1. Insert element in queue
 2. Delete element from queue
 3. Quit

Choose option: 1

Enter Input : 23
23 is added to the queue.

Choose option: 1

Enter Input : 45
45 is added to the queue.

Choose option: 1

Enter Input : 34
34 is added to the queue.

Choose option: 2

Deleted element is : 23

Choose option: 2

Deleted element is : 45

Choose option: 2

Deleted element is : 34

Choose option: 2
Queue is empty
Choose option: 3
PS D:\C Programs> |
```

By:Amogh Garg

2020UCO1688