ANUSHA
1BM19CS021

```
#include <stdio.h>
#include <stdlib.h>
struct node
{
  int info;
  struct node *ptr;
}*front, *rear, *temp, *front1;

void enq (int data);
void deq ();
void display ();
void create ();

int main ()
{
  int no, ch, e;
  printf ("1 - Enque
           2 - Deque
           3 - Display
           4 - Exit");
  create ();
  while (1)
  {
    printf ("Enter choice : ");
    scanf ("%d", &ch);
    switch (ch)
    {
      case 1:
        printf ("Enter data : ");
        scanf ("%d", &no);
        enq (no);
        break;
      case 2:
```

```
            deq();
            break;
        case 3:
            display();
            break;
        case 4:
            exit(0);
        default:
            printf("Wrong choice");
            break;
        }
    }
    return 0;
}

void create()
{
    front = rear = NULL;
}

void enq(int data)
{
    if (rear == NULL)
    {
        rear = (struct node*) malloc (1 * sizeof(struct node
        rear->ptr = NULL;
        rear->info = data;
        temp->ptr = NULL;
        rear = temp;
    }
}
```

```
void display()
{
 frontl = front;
 if ((frontl == NULL) && (rear == NULL))
 {
  printf ("Queue is Empty");
  return;
 }
while (frontl != rear)
 {
  printf ("%d", frontl -> info);
  frontl = frontl -> ptr;
 }
 if (frontl == rear)
  printf ("%d", frontl -> info);
}

void deq ()
 {
 frontl = front;
 if (frontl == NULL)
 {
 printf ("queue is Empty");
 return;
 }
 else
 if (frontl -> ptr != NULL)
  {
   frontl = frontl -> ptr;
   printf ("Dequed val: %d", front -> info);
   free (front);
   front = frontl;
  }
 else
```

```
    {
        printf("Dequeued val: %d", front->info);
        free(front);
        front = NULL;
        rear = NULL;
    }
}
```