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1BM19CS052

LAB PROGRAM-3

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

int front = 0;
int rear = -1;

int queue[MAX];

void Enque(int);
int Deque();
void Display();
int main(int argc, char *argv)
{
 int option;
 int item;
 do {
  printf("\n 1. Insert to Queue (Enqueue)");
  printf("\n 2. Delete from the Queue (Dequeue)");
  printf("\n 3. Display the Content.");
  printf("\n 4. Exit \n");
  printf("Enter the option: ");
  scanf("%d", &option);
  switch (option)
  {
   case 1: printf("Enter the element \n");
    scanf("%d", &item);
    Enque(item);
    break;
```

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```
case 2: item = Deque ();
if (item == -1)
   printf ("Queue is empty \n");
   else.
   printf ("Removed element from the queue %d"
            , item );
    break;
   case 3 : display ();
        break;
   Case 4 : exit(0);
   }
} while (option != 4);
  return 0;
}

void Enque (int ele)
{
 if (rear == MAX - 1)
    printf ("Queue is full \n");
 else.
 {
  rear ++;
  queue [rear] = ele;
 }
}
 int Deque ()
{
 int item;
 if ( front == -1)
      return -1;
 else.
```

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```
{
  item = queue[front];
  front++;
  if (front > rear)
  {
   front = -1;
   rear = -1;
  }
  return item;
 }
}
void display()
{
  int i;
 if (front == -1)
   printf("Queue is empty\n");
 else
 {
  printf("\n Queue contents : ");
  for (i = front; i <= rear; i++)
      printf("%d", queue[i]);
 }
```

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