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Date

Expt. No. lab 4

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```
#include<stdio.h>
#include<stdlib.h>
#define MAX 3
int front=-1;
int rear=-1;
int queue[MAX];
void Enque(int);
void Deque();
void display();
int main(int argc, char** argv)
{ int option, item;
  do {
    printf("1. Enqueue\n2. Dequeue\n3. Display
          \n4. Exit\n");
    printf("Enter the option");
    scanf("%d",&option);
    switch(option)
{ case 1: printf("Enter element\n");
          scanf("%d",&item);
          Enque(item); break;
  case 2: Deque(); break;
  case 3: display(); break;
  case 4: exit(0);
}
} while(option!=4);
    return 0;
}
```

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```
void Enque(int ele)
{ if (((front == 0 && rear == MAX-1) || (front == rear+1))
  { printf("Queue is full"); return; }
  else { rear = (rear+1) % MAX;
         queue[rear] = ele;
         if (front == -1) front = 0; } }

void Deque()
  { int item;
    if ((front == -1) && (rear == -1))
{ printf("Queue empty"); }
else { item = queue[front];
       printf("Removed element %d", item);
       if (front == rear)
  { front = -1; rear = -1; }
  else { front = (front+1) % MAX; } } }

void display()
{ int i;
  if ((front == -1) && (rear == -1))
{ printf("Queue is empty\n"); return; }
else { printf("Queue contents\n");
       i = front;
  do { printf("%d", queue[i]);
       if (i == rear) break;
       i = (i+1) % MAX;
  } while (i != front);
} }
```

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