```
#include<stdio.h>
#include<stdlib.h>
#define MAX 4
int front=-1;
int rear=-1;
int queue[MAX];
void Enque(int);
int Deque();
void display();
int main()
{
   int option;
   int item;
   do{
   printf("\n circular QUEUE\n");
   printf("\n 1. Insert to QUEUE");
   printf("\n 2. delete from QUEUE");
   printf("\n 3. Display the QUEUE");
   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;
   case 2: item=Deque();
           if(item==-1)
           printf("Removed element from the queue is
                                          %d\n",item);
           break;
```

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case 3: display();
        break;
case 4: exit(0);
 }
} while (option != 4);
   return 0;
}
void Enque (int ele)
{
   if (((front==0 && rear == MAX-1)) || (front==rear+1))
 Printf(" queue is full\n");
else
{
  rear = (rear+1) % MAX;
   queue[rear] = ele;
    if (front==-1)
     front=0;
   }
}
int Deque()
{
   int item;
   if((front==-1) && (rear==-1))
{
   return(-1);
 }
 else
 {
   item=queue[front];
   if (front==rear)
   {
```

```
    front = -1;
    rear = -1;
  }
  else
  {
    front = (front + 1) % MAX;
  }
    return item;
  }
}

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