~~o/p~~

output

1. InsertRear
2. DeleteFront
3. DisPlay
4. Exit

insert

Enter the choice:

1

Enter item to be inserted: 11

1. insertRear
2. DeleteFront
3. DisPlay
4. exit

delete

Enter the choice:

2

~~Enter~~ ~~the~~ Item deleted = 11

1. insertREAR
2. DeleteFRONT
3. DisPLAY
4. exit

Enter the choice: 1

Enter item to be inserted: 13

1. insertRear
2. DeleteFront
3. DisPLAY
4. exit

Enter the choice: 1

Enter item to be inserted: 44

1. insertRear
2. deleteFront
3. Display
4. exit

DISPLAY

Enter choice: 3

Contents of Queue is given below

13, 44

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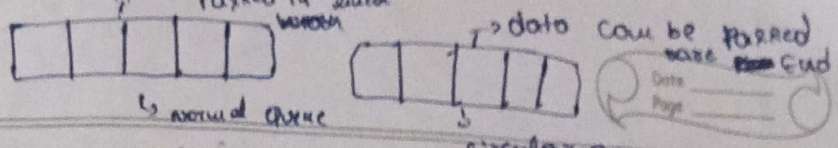
7

8b WAP to simulate the working a circular qu of integers using an array, provide the following operations : insert, delete & Dis The program should print appropriate me for queue empty and overflow conditio

```
#include<stdio.h>
#define SIZE 5

int Queue[SIZE], front = -1, rear =-1;

void insert(int value)
{
  if((front ==0 && rear == SIZE-1) ||
     (rear == (front-1)% (SIZE-1)))
  {
     printf(" Queue is overflow\n");
     return ;
  }
  else if (front ==-1)
  {
     front =rear = 0;
     Queue[rear] = value;
  }
  else if (rear = SIZE-1 && front != 0
  {
     rear =0;
     Queue[rear ]= value;
  }
  else
  {
     rear ++;
     Queue[rear ] = value;
  }
}
```




```
void delete()
{
 if(front==-1)
 {
  printf("Queue is Empty\n");
  return;
 }
  printf("Deleted : %d\n", Queue[front]);
  Queue[front]=-1;
  if (front==rear) {
     front = rear=-1;
   }
  else if(front==SIZE-1)
   {
     front=0;
   }
  else{
     front++;
  }
 }

 void display()
 {
  if(front==-1) {
  Printf("Queue is Empty\n");
  return;
 }
  printf("Queue elements: ");
  if (rear>=front)
  {
   for(int i=front; i<=rear; i++) {
```

```
printf("%d", queue[i]);
}
}
else {
for(int i= front; i<SIZE;i++)
{
printf("%d", queue[i]);
}
for(int i=0; i<=rear;i++)
{
printf("%d", queue[i]);
}
}
printf("\n");
}
int main() {
int choice, value;
while(1) {
printf("\n1. Insert\n2. Delete\n3. Display\n4. Exit\n");
printf("Enter your choice:");
scanf("%d", &choice);

switch(choice)
{
case 1: printf("Enter the value to insert:");
scanf("%d", &value);
insert(value);
break;
case
```

```
delete();
break;

case 3;
    display();
    break;
case 4;
    return 0;
default;
    printf("Invalid choice, try again
    .);
  }
}
return 0;
}
```

o/p

0.

~~#include~~

~~Psuedo code~~

~~#include <stdio.h>~~

~~isfull(int value)~~

~~{~~

~~Psuedo code~~

~~void enQueue(int data)~~

~~{~~

~~if(rear=~~

Psuedo code for Circular Queue

define SIZE -> 5

int Queue, front = rear = -1;

void enQueue(value)

{

if((front==0 && rear == size-1) ||

(rear == (front+1)%n) && (SIZE-1))

Printf "Queue is ~~Empty~~ overflow"

else if (front==-1)

front = rear = 0;

Queue[rear] = value;

else if (rear = SIZE-1 && front!=0)

rear=0

Queue[rear] = value;

else {

rear ++;

Queue[rear] = value;

```
void dequeue()
 {
 if(isEmpty)
  {
   print " Queue is Empty"
   return;

  if( front == rear )
   {
     front = rear = -1;
   }
  else
    {
     front+++;
  }

void display()
 {
  if("is Empty")
   {
     print " Queue is Empty");
     return 0;
   }
     print "Queue elements are"
     if(is not Empty)
     {
     for(int i = front; i<=rear; i++)
        {
          print Queue[i]
        }
     }
```

```
else
{
for(int i = front; i < size; i++)
{
print int i=0; i<=rear; i++)
{
  Print  Queue[i]
}
}

int main()
{
  define choice & value.

   switch(choice)
   {
    case 1:
        enQueue();
    case 2:
        deQueue();
    case 3;
        display();
    default :
}      return
}
```

o/p seen

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O/P

1. Insert
2. Delete
3. DisPLAY
4. Exit

} Insert

Enter your choice : 1
Enter the value to insert: 23

Enter the value to insert: 24

Enter the value to insert: 24

Enter the value to insert: 29

Enter the value to insert: 38

1. ~~Enter~~ Insert
2. Delete
3. DisPlay
4. Exit

Enter your choice: 1
Queue is overflow

1. Insert
2. Delete
3. DisPlay
4. Exit

} display

Enter your choice: 3
Queue Elements are:

23
24
24
29
38

1. Insert
2. Delete
3. Display
4. Exit

} Delete

Enter your choice : 2

Deleted 23

Deleted 24

Deleted 24

Deleted 29

Deleted 38

1. Insert
2. Delete
3. Display
4. Exit

Enter your choice 2

Queue is underflow

1. Insert
2. Delete
3. Display
4. Exit

Enter your choice : 38

Please choose correct options to

Push the data into circular Q

0/8

Sem