Queue using array

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**ALGORITHM**

**Input:** Insert and Delete the elements of the queue

**Output:** Displaying the queue

**Steps:**

1. Set max=100
2. front=rear=-1
3. declare array q[max]

**insert( )**

1. Start
2. Declare ele
3. if(rear==max-1)
4. print "...Overflow..."
5. else
6. if(front==-1)
7. front=0
8. Print "Enter the element: "
9. Read element ele
10. rear=rear+1
11. q[rear]=ele
12. Stop

**delete( )**

1. Start
2. if(front == -1)
3. print "Queue is empty"
4. else
5. print q[front]
6. front = front + 1
7. if(front>rear)
8. front=-1
9. rear=-1
10. Stop

**display( )**

1. Start
2. Declare i
3. if(front==-1)
4. print "Queue is empty "
5. else
6. print "Queue: “
7. for(i=front;i<=rear;i++)
8. Print q[i]
9. Stop

**main( )**

1. Start
2. Declare ch and ans
3. do
4. Print "1.Insert

2.Delete

3.Display

4.Exit

Enter your choice: "

1. Read ch
2. If(ch==1)

Call function insert( )

1. Else if(ch==2)

Call function delete( )

1. Else if(ch==3)

Call function display( )

1. Else if(ch==4)

Exit(0)

1. Else

Print “Invalid Choice”

1. Print “Do you want to continue? (y/n): "
2. Read ans
3. Closing do

while(ans==’y’ or ans==’Y’)

1. Stop

**PROGRAM**

#include<stdio.h>

#include<stdlib.h>

#define max 100

int q[max];

int front=-1;

int rear=-1;

void insert()

{

int ele;

if(rear==max-1)

printf("...Overflow...\n");

else

{

if(front==-1)

front=0;

printf("Enter the element: ");

scanf("%d",&ele);

rear=rear+1;

q[rear]=ele;

}

}

void delete()

{

if(front == -1)

printf("Queue is empty\n");

else

{

printf("Deleted element: %d\n",q[front]);

front = front + 1;

if(front>rear)

{

front=-1;

rear=-1;

}

}

}

void display()

{

int i;

if(front==-1)

printf("Queue is empty \n");

else

{

printf("Queue: ");

for(i=front;i<=rear;i++)

printf("%d\t",q[i]);

printf("\n");

}

}

void main()

{

int ch;

char ans;

do

{

printf("1.Insert\n2.Delete\n3.Display\n4.Exit\nEnter your choice: ");

scanf("%d",&ch);

switch(ch)

{

case 1:

insert();

break;

case 2:

delete();

break;

case 3:

display();

break;

case 4:

printf("...Exiting...");

exit(0);

default:

printf("Invalid choice");

}

printf("Do you want to continue? (y/n): ");

scanf("%s",&ans);

}while(ans=='y'||ans=='Y');

}