

1.Linear Queue

```
#include <stdio.h>

int q[50],rear=-1,front=-1,max=50;

void enqueue();

void dequeue();

void display();

void main()

{

int ch;

printf("Press-1.insert, 2.delete, 3.Display and 4.Exit\n");

while(ch!=4)

{

printf("Enter choice:");

scanf("%d",&ch);

switch(ch){

case 1:

enqueue();

break;

case 2:

dequeue();

break;

case 3:

display();

break;

}

}

printf("Exited");

}
```

```
void enqueue()
{
    int item;
    if(rear==max-1)
        printf("Queue overflow\n");
    else
    { if(front==--1)
        front=0;
        printf("Insert an element:");
        scanf("%d",&item);
        rear+=1;
        q[rear]=item;
    }
}

void dequeue()
{
    if(front==--1 || front>rear)
        printf("Queue underflow\n");
    else
    {
        printf("Deleted element is:%d\n",q[front]);
        front+=1;
    }
}

void display()
{
    int i;
```

```
if(front==-1)
printf("Queue is empty");
else
{
printf("Queue is:\n");
for(i=front;i<=rear;i++)
printf("%d\t",q[i]);
printf("\n");
}
}
```

Output:

```
Press-1.insert, 2.delete, 3.Display and 4.Exit
Enter choice:1
Insert an element:2
Enter choice:1
Insert an element:3
Enter choice:3
Queue is:
2      3
Enter choice:2
Deleted element is:2
Enter choice:4
Exited

...Program finished with exit code 0
Press ENTER to exit console.□
```