# Insert, delete,search and display of elements of Circular Queue

#include<stdio.h>

# define MAX 5

int cqueue\_arr[MAX];

int front = -1;

int rear = -1;

void insert(int item)

{

if((front == 0 && rear == MAX-1) || (front == rear+1))

{

printf("Queue Overflow n");

return;

}

if(front == -1)

{

front = 0;

rear = 0;

}

else

{

if(rear == MAX-1)

rear = 0;

else

rear = rear+1;

}

cqueue\_arr[rear] = item ;

}

void deletion()

{

if(front == -1)

{

printf("Queue Underflown");

return ;

}

printf("Element deleted from queue is : %d",cqueue\_arr[front]);

if(front == rear)

{

front = -1;

rear=-1;

}

else

{

if(front == MAX-1)

front = 0;

else

front = front+1;

}

}

void display()

{

int front\_pos = front,rear\_pos = rear;

if(front == -1)

{

printf("Queue is emptyn");

return;

}

printf("Queue elements :n");

if( front\_pos <= rear\_pos )

while(front\_pos <= rear\_pos)

{

printf("%d ",cqueue\_arr[front\_pos]);

front\_pos++;

}

else

{

while(front\_pos <= MAX-1)

{

printf("%d ",cqueue\_arr[front\_pos]);

front\_pos++;

}

front\_pos = 0;

while(front\_pos <= rear\_pos)

{

printf("%d ",cqueue\_arr[front\_pos]);

front\_pos++;

}

}

printf("n");

}

void search()

{

int item,i,c=0;

printf("Enter the element which is to be searched");

scanf("%d", &item);

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

{

if(item==cqueue\_arr[i])

{

printf("item found at location %d ",i+1);

c++;

}

}

if(c==0)

printf("item not found");

}

int main()

{

int choice,item;

do

{

printf("1.Insertn");

printf("2.Deleten");

printf("3.Displayn");

printf("4.Search");

printf("5.Quitn");

printf("Enter your choice : ");

scanf("%d",&choice);

switch(choice)

{

case 1 :

printf("Input the element for insertion in queue : ");

scanf("%d", &item);

insert(item);

break;

case 2 :

deletion();

break;

case 3:

display();

break;

case 4:

search();

break;

case 5:

break;

default:

printf("Wrong choicen");

}

}while(choice!=5);

return 0;

}

# OUTPUT

OUTPUTInput the element for insertion in queue : 25

1.Insertn2.Deleten3.Displayn4.Search5.QuitnEnter your choice : 1

Input the element for insertion in queue : 54

1.Insertn2.Deleten3.Displayn4.Search5.QuitnEnter your choice : 1

Input the element for insertion in queue : 65

1.Insertn2.Deleten3.Displayn4.Search5.QuitnEnter your choice : 87

Wrong choicen1.Insertn2.Deleten3.Displayn4.Search5.QuitnEnter your choice : 1

Input the element for insertion in queue : 87

1.Insertn2.Deleten3.Displayn4.Search5.QuitnEnter your choice : 1

Input the element for insertion in queue : 99

1.Insertn2.Deleten3.Displayn4.Search5.QuitnEnter your choice : 3

Queue elements :n25 54 65 87 99 n1.Insertn2.Deleten3.Displayn4.Search5.QuitnEnter your choice : 2

Element deleted from queue is : 251.Insertn2.Deleten3.Displayn4.Search5.QuitnEnter your choice : 3

Queue elements :n54 65 87 99 n1.Insertn2.Deleten3.Displayn4.Search5.QuitnEnter your choice : 4

Enter the element which is to be searched

87

item found at location 4 1.Insertn2.Deleten3.Displayn4.Search5.QuitnEnter your choice : ^C