Program:

#include <iostream>

using namespace std;

int cqueue[5];

int front = -1 ,rear=-1,n=5;

void insert(int val){

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

cout<<"\nQueue is filled "<<endl;

return;

}

if(front== -1){

front = 0;

rear = 0;

}

else{

if(rear==n-1){

rear=0;

}

else{

rear = rear+1;

}

}

cqueue[rear] = val;

}

void deletion(){

if(front == -1){

cout<<"\nQueue is already empty "<<endl;

return;

} cout<<"Element deleted from queue is --> "<<cqueue[front]<<endl;

if(front == rear){

front = -1;

rear = -1;

}

else{

if(front == n-1){

front = 0;

}

else{

front = front +1;

}

}

}

void display\_front(){

int f= front ,r = rear;

if(front == -1){

cout<<"\nQueue is already empty "<<endl;

return ;

}

cout<<"Queue elements in forward order -->"<<endl;

if(f<=r){

while(f<=r){

cout<<cqueue[f]<<" ";

f++;

}

}

else{

while(f<=n-1){ cout<<cqueue[f]<<" ";

f++;

}

f=0;

while(f<=r){

cout<<cqueue[f]<<" ";

f++;

}

}

cout<<endl;

}

void display\_reverse(){

int f= front ,r = rear;

if(front == -1){

cout<<"\nQueue is already empty "<<endl;

return ;

}

cout<<"Queue elements in reverse order -->"<<endl;

if(f<=r){

while(f<=r){

cout<<cqueue[r]<<" ";

r--;

}

}

else{

while(r>=0){

cout<<cqueue[r]<<" ";

r--;

} r=n-1;

while(r>=f){

cout<<cqueue[r]<<" ";

r--;

}

}

cout<<endl;

}

int main()

{

int ch,val;

cout<<"1]Insert"<<endl;

cout<<"2)Delete"<<endl;

cout<<"3)Display Forward"<<endl;

cout<<"4)Display Reverse"<<endl;

cout<<"5)Exit"<<endl;

do {

cout<<"Enter choice --> ";

cin>>ch;

switch(ch) {

case 1:

cout<<"Input for insertion--> ";

cin>>val;

cout<<endl;

insert(val);

break;

case 2:

deletion(); cout<<endl;

break;

case 3:

display\_front();

cout<<endl;

break;

case 4:

display\_reverse();

cout<<endl;

break;

case 5:

cout<<"Exit\n";

break;

default: cout<<"\nEnter correct choice !"<<endl;

}

} while(ch != 5);

return 0;

}

OUTPUT:

1]Insert

2)Delete

3)Display Forward

4)Display Reverse

5)Exit

Enter choice --> 1

Input for insertion--> 10

Enter choice --> 1

Input for insertion--> 20

Enter choice --> 1Input for insertion--> 30

Enter choice --> 1

Input for insertion--> 40

Enter choice --> 1

Input for insertion--> 50

Enter choice --> 1

Input for insertion--> 60

Queue is full you can't insert the element

Enter choice --> 2

Element deleted from queue is --> 10

Enter choice --> 2

Element deleted from queue is --> 20

Enter choice --> 2

Element deleted from queue is --> 30

Enter choice --> 2

Element deleted from queue is --> 40

Enter choice --> 2

Element deleted from queue is --> 50

Enter choice --> 2

Queue is already empty

Enter choice --> 1

Input for insertion--> 10

Enter choice --> 1

Input for insertion--> 20

Enter choice --> 1Input for insertion--> 30

Enter choice --> 3

Queue elements in forward order -->

10 20 30

Enter choice --> 4

Queue elements in reverse order -->

30 20 10