CIRCULAR QUEUE

#include <iostream>

#define MAXSIZE 3

using namespace std;

int rear=-1,front=-1,queue[MAXSIZE],ele;

void insert()

{

if(front == (rear+1)%MAXSIZE)

{

cout<<"Queue is full";

}

else

{

rear=(rear+1)%MAXSIZE;

if(front==-1)

{

front=0;

}

cout<<"Enter an element\n";

cin>>ele;

queue[rear]=ele;

cout<<"Element"<<ele<<"is inserted at "<<rear;

}

}

void del()

{

if (front==-1 || (front>rear))

{

cout<<"Queue is empty";

}

else

{

ele=queue[front];

front=(front+1)%MAXSIZE;

cout<< "Element"<<ele<<"is deleted";

if((rear==(MAXSIZE-1) && front==0)|| (front>rear))

{

front=-1;

rear=-1;

}

}

}

void display()

{

int i;

if (front==-1 || rear==-1)

{

cout<<"queue is empty \n";

}

else

{

cout<< "\n queue contents are : \t";

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

{

cout<< queue[i]<<"\t";

}

}

}

int main()

{

int n;

while (n!=4)

{

cout<<"\n Enter what you want to do \n"<<"1.insert" <<"\t" <<"2.delete" <<"\t" <<"3.display" <<"\t"<<"4.exit" <<"\t"<<"\n";

cin>> n;

switch(n)

{

case 1:

insert();

break;

case 2:

del();

break;

case 3:

display();

break;

}

}

if (n==4)

{

cout<< " exit"<<"\n";

}

return 0;

}

***#output***

*Enter what you want to do*

*1.insert 2.delete 3.display 4.exit*

*1*

*Enter an element*

*34*

*Element34is inserted at 0*

*Enter what you want to do*

*1.insert 2.delete 3.display 4.exit*

*3*

*queue contents are :* ***34***

*Enter what you want to do*

*1.insert 2.delete 3.display 4.exit*

*1*

*Enter an element*

*6*

*Element6is inserted at 1*

*Enter what you want to do*

*1.insert 2.delete 3.display 4.exit*

*1*

*Enter an element*

*78*

*Element78is inserted at 2*

*Enter what you want to do*

*1.insert 2.delete 3.display 4.exit*

*190*

*Enter what you want to do*

*1.insert 2.delete 3.display 4.exit*

*3*

*queue contents are :* ***34 6 78***

*Enter what you want to do*

*1.insert 2.delete 3.display 4.exit*