Circular Queue

#include<stdio.h>

#include<conio.h>

int cq[20],size,ch,rear=-1,front=-1,item;

void insert();

void delete();

void display();

void quit();

int main()

{

printf("----- CIRCULAR QUEUE IMPLEMENTATION -----");

printf("\n Enter the size of queue : ");

scanf("%d",&size);

do

{

printf("\n\n Circular Queue:\n1. Insert \n2. Delete\n3. Display\n4. Exit");

printf("\nEnter Choice : ");

scanf("%d", &ch);

switch (ch)

{

case 1:

insert();

break;

case 2:

delete();

break;

case 3:

display();

break;

case 4:

break;

default:

printf("Wrong choice\n");

}

}while (ch !=4);

}

void insert()

{

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

{

printf("\nQueue Overflow ");

return;

}

if(front == -1)

{

front = 0;

rear = 0;

printf("Enter the element : ");

scanf("%d", &item);

}

else

{

if(rear == size-1)

{

rear = 0;

printf("Enter the element : ");

scanf("%d", &item);

}

else

{

rear = rear+1;

printf("Enter the element : ");

scanf("%d", &item);

}

}

cq[rear] = item ;

}

void delete()

{

if(front == -1)

{

printf("Queue Underflow");

return ;

}

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

if(front == rear)

{

front = -1;

rear=-1;

}

else

{

if(front == size-1)

front = 0;

else

front = front+1;

}

}

void display()

{

int i;

if(front== -1)

{

printf("\nQueue is empty\n");

return;

}

printf("\nQueue elements :\n");

i=front;

if( front<=rear )

{

while(i<=rear)

printf("%d ",cq[i++]);

}

else

{

while(i<=size-1)

printf("%d ",cq[i++]);

i=0;

while(i<=rear)

printf("%d ",cq[i++]);

}

printf("\n");

}