//circular que using array in c//

#include<stdio.h>

#define size 3

int cq[3] ;

int front=-1 ;

int rear=-1 ;

int item ;

int main()

{

int item ;

int ch ;

while(1)

{

printf("\n MENU \n 1.enque:\n 2.deque :\n 3.deque :\n 4.display :\n 5.exit :\n");

printf("Enter choice :") ;

scanf("%d",&ch);

switch(ch)

{

case 1:

if (cqfull())

printf("queue is full");

scanf("%d",&item);

enqueue(item);

break ;

case 2:

if (cqempty())

printf("queue is empty");

else

item=dequeue();

break ;

case 3:

display() ;

break ;

case 4:

exit(0);

}

}

}

int cqfull()

{

if(front==(rear+1)%3)

return 1;

else

return 0 ;

}

int cqempty()

{

if (front==-1)

return 1 ;

else

return 0;

}

void enqueue(int item)

{

if(cqfull())

printf("cq is full, overflow");

else

{

if (front==-1)

front=rear=0 ;

else

rear=(rear+1)%3;

cq[rear]=item;

}

}

void dequeue()

{

if (cqempty())

printf("the cq is empty, underflow");

else

{

item=cq[front] ;

if (front==rear)

front= rear=-1 ;

else front=(front+1)%3 ;

printf("deleted item is %d",item);

}

}

void display()

{

int i=front ;

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

{

printf("cqueue is empty.");

}

else

while(i<=rear)

{

printf("%d\n",cq[1]);

i=(i+1)%3 ;

}

}

/\* Output :

MENU

1.enque:

2.deque :

3.deque :

4.display :

5.exit :

Enter choice :1

22

MENU

1.enque:

2.deque :

3.deque :

4.display :

5.exit :

Enter choice :1

40

MENU

1.enque:

2.deque :

3.deque :

4.display :

5.exit :

Enter choice :1

52

MENU

1.enque:

2.deque :

3.deque :

4.display :

5.exit :

Enter choice :1

queue is full

2

cq is full, overflow

MENU

1.enque:

2.deque :

3.deque :

4.display :

5.exit :

Enter choice :2

deleted item is 22

MENU

1.enque:

2.deque :

3.deque :

4.display :

5.exit :

Enter choice :2

deleted item is 40

MENU

1.enque:

2.deque :

3.deque :

4.display :

5.exit :

Enter choice :2

deleted item is 52

MENU

1.enque:

2.deque :

3.deque :

4.display :

5.exit :

Enter choice :2

queue is empty

MENU

1.enque:

2.deque :

3.deque :

4.display :

5.exit :

Enter choice :3

cqueue is empty.

MENU

1.enque:

2.deque :

3.deque :

4.display :

5.exit :

Enter choice :3

cqueue is empty.

MENU

1.enque:

2.deque :

3.deque :

4.display :

5.exit :

Enter choice :3

cqueue is empty.

MENU

1.enque:

2.deque :

3.deque :

4.display :

5.exit :

Enter choice :4 \*/