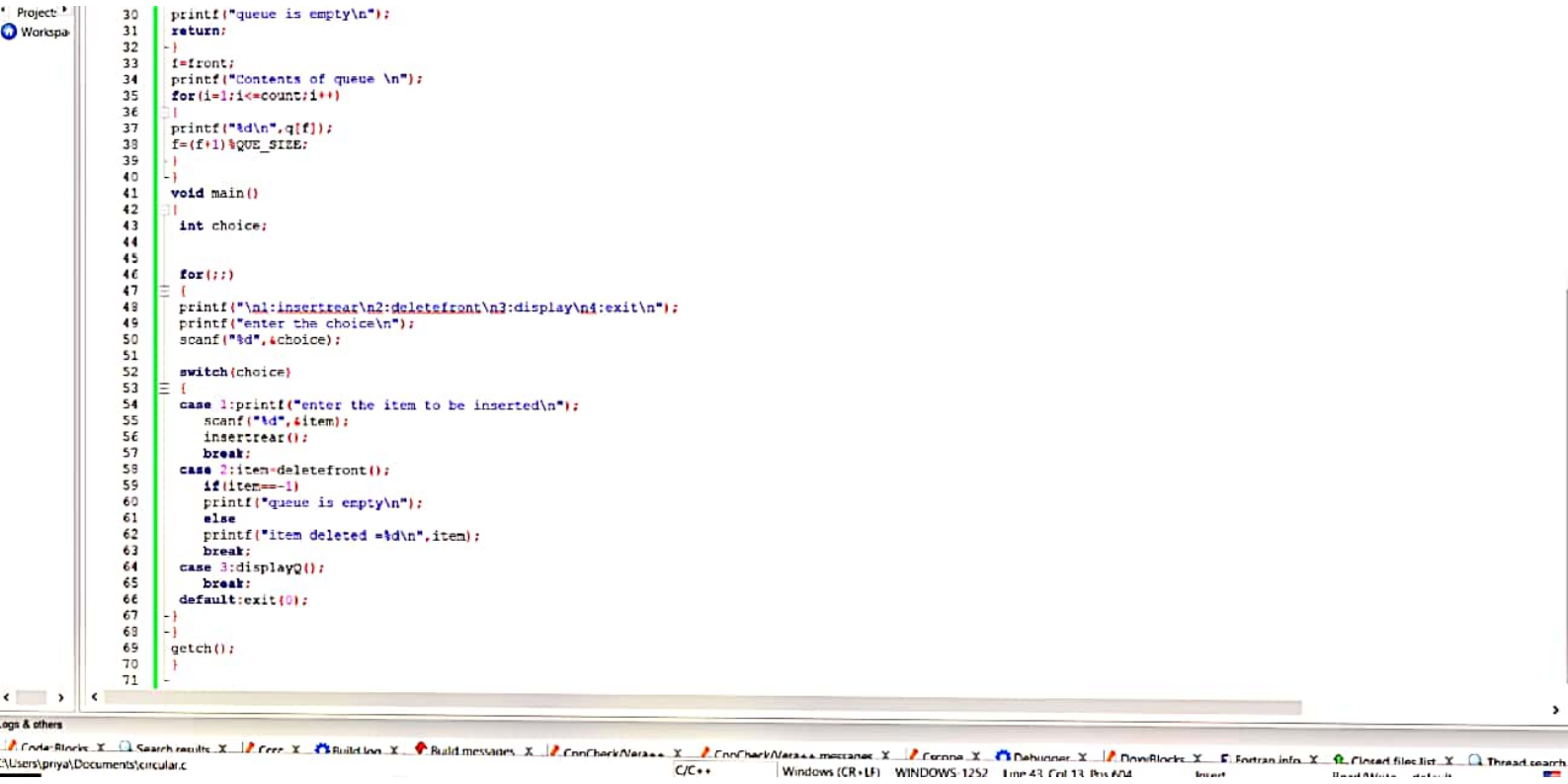
Start here | linear.c | circular.c

```c
#include<stdio.h>
#include<stdlib.h>
#define QUE_SIZE 3
int item,front=0,rear=-1,q[10];
void insertrear()
{if(rear==QUE_SIZE-1)
{
    printf("queue overflow\n");
    return;
}
rear=rear+1;
q[rear]=item;
}int deletefront()
{if (front>rear)
{front=0;
rear=-1;
return -1;
}return q[front++];
}void displayQ()
{int i;
if (front>rear)
{
    printf("queue is empty\n");
    return;
}
printf("contents of queue\n");
for(i=front;i<=rear;i++)
{
    printf("%d\n",q[i]);
}}
int main()
{
    int choice;
    for(;;)
    {
        printf("1:insertrear 2:deletefront 3:display 4:exit\n");
        printf("enter the choice\n");
        scanf("%d",&choice);
        switch(choice)
        {
            case 1:printf("enter the item to be inserted\n");
            scanf("%d",&item);
```



```
printf("queue is empty\n");
return;
}
i=front;
printf("Contents of queue \n");
for(i=1;i<=count;i++)
{
printf("%d\n",q[f]);
f=(f+1)%QUE_SIZE;
}
}
void main()
{
 int choice;


 for(;;)
 {
printf("\n1:insertrear\n2:deletefront\n3:display\n4:exit\n");
printf("enter the choice\n");
scanf("%d",&choice);

 switch(choice)
 {
 case 1:printf("enter the item to be inserted\n");
    scanf("%d",&item);
    insertrear();
    break;
 case 2:item=deletefront();
    if(item==-1)
    printf("queue is empty\n");
    else
    printf("item deleted =%d\n",item);
    break;
 case 3:displayQ();
    break;
 default:exit(0);
}
}
getch();
}
```

```
3

1:insertrear
2:deletefront
3:display
4:exit
enter the choice
1
enter the item to be inserted
4
queue overflow

1:insertrear
2:deletefront
3:display
4:exit
enter the choice
2
item deleted =2

1:insertrear
2:deletefront
3:display
4:exit
enter the choice
2
item deleted =2

1:insertrear
2:deletefront
3:display
4:exit
enter the choice
2
item deleted =3

1:insertrear
2:deletefront
3:display
4:exit
enter the choice
2
queue is empty

1:insertrear
2:deletefront
3:display
4:exit
enter the choice
```

```
1:insertrear
2:deletefront
3:display
4:exit
enter the choice
2
item deleted =2

1:insertrear
2:deletefront
3:display
4:exit
enter the choice
2
item deleted =2

1:insertrear
2:deletefront
3:display
4:exit
enter the choice
2
item deleted =3

1:insertrear
2:deletefront
3:display
4:exit
enter the choice
2
queue is empty

1:insertrear
2:deletefront
3:display
4:exit
enter the choice
3
queue is empty

1:insertrear
2:deletefront
3:display
4:exit
enter the choice
4

Process returned 0 (0x0)   execution time : 66.843 s
Press any key to continue.
```

```
:insertrear
:deletefront
:display
:exit
nter the choice

nter the item to be inserted


:insertrear
:deletefront
:display
:exit
nter the choice

nter the item to be inserted


:insertrear
:deletefront
:display
:exit
nter the choice

nter the item to be inserted


:insertrear
:deletefront
:display
:exit
nter the choice

nter the item to be inserted

ueue overflow

:insertrear
:deletefront
:display
:exit
nter the choice
```