WEEK 4:CIRCULAR QUEUE

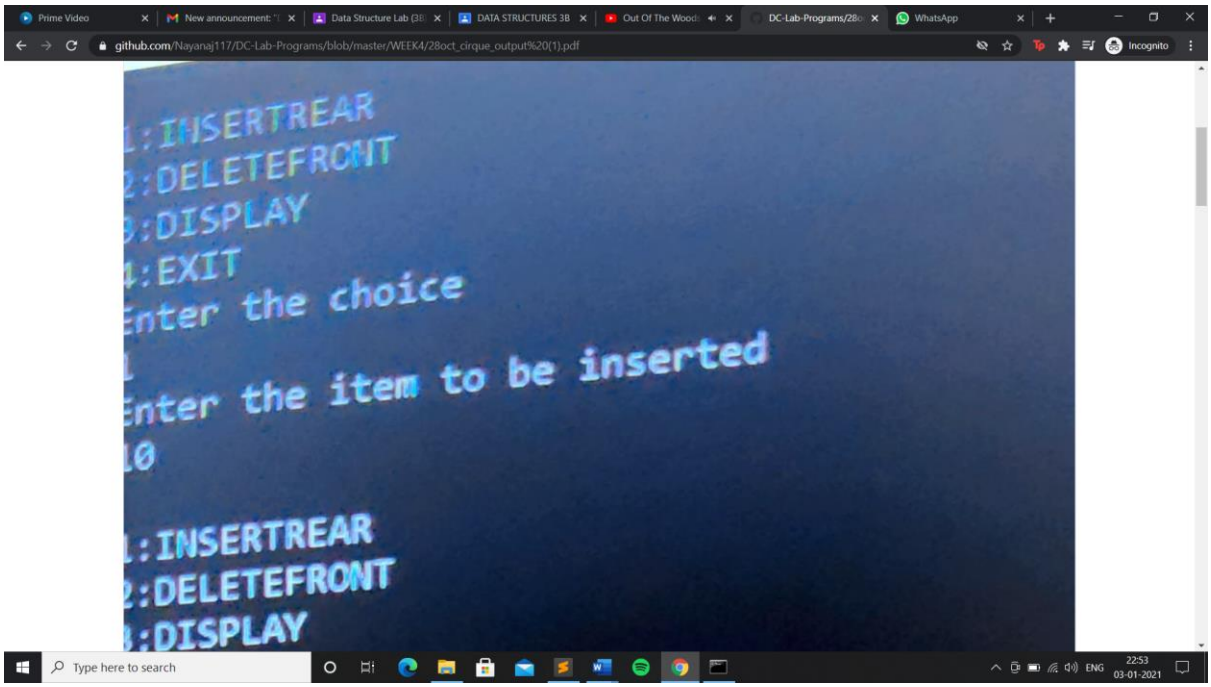
PROGRAM

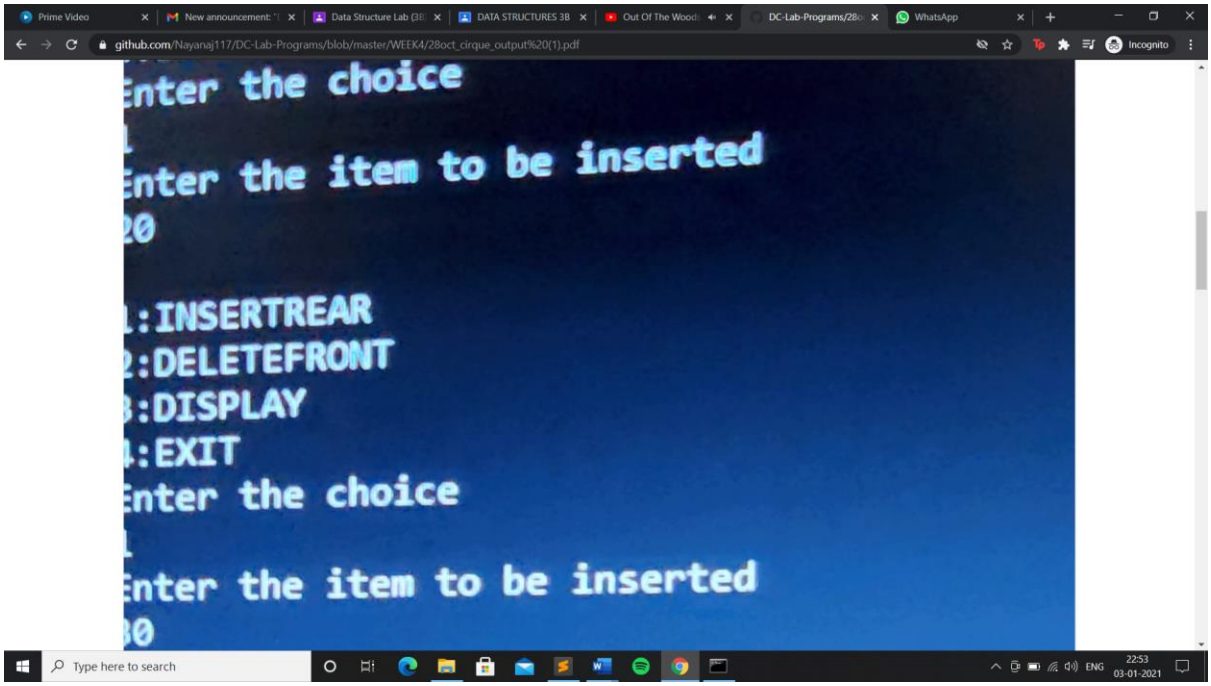
```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
#define QUE_SIZE 3
int item,front=0,rear=-1,q[QUE_SIZE],count=0;
void insertrear()
{
if(count==QUE_SIZE)
{
printf("Queue overflow\n");
return;
}
rear=(rear+1)%QUE_SIZE;
q[rear]=item;
count++;
}
int deletefront()
{
if(count==0) return -1;
item=q[front];
front=(front+1)%QUE_SIZE;
count=count-1;
return item;
}
void displayQ()
{
int i,f;
if(count==0)
```

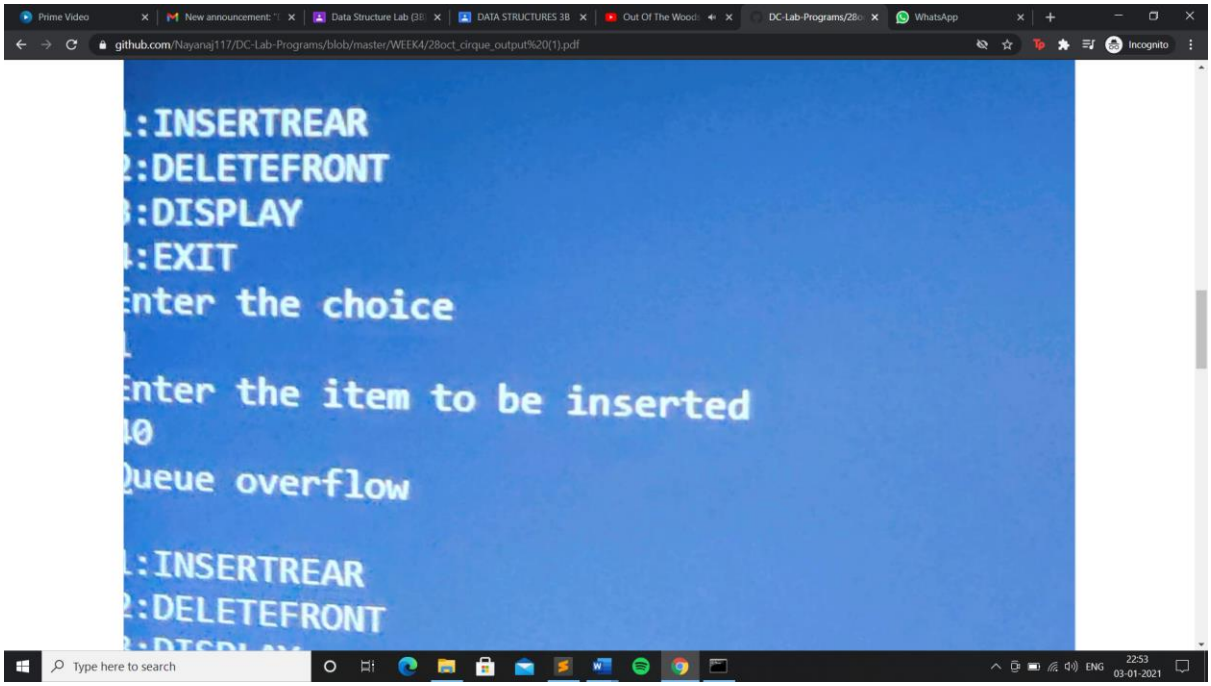
```
{
printf("Queue is empty\n");
return;
}
f=front;
printf("Contents of queue are \n");
for(i=1;i<=count;i++)
{
printf("%d\n",q[f]);
f=(f+1)%QUE_SIZE;
}
}
void main()
{
 int choice;
 for(;;)
 {
 printf("\n1:INSERTREAR\n2:DELETEFRONT\n3:DISPLAY\n4:EXIT\n");
 printf("Enter the choice\n");
 scanf("%d",&choice);

 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 is %d\n",item);
            break;
 case 3:displayQ();
            break;
 default:exit(0);
}
}
getch();
}
```

OUTPUT:




Prime Video
New announcement: "I
Data Structure Lab (3E
DATA STRUCTURES 3B
Out Of The Woods
DC-Lab-Programs/28o
WhatsApp
github.com/Nayanaj117/DC-Lab-Programs/blob/master/WEEK4/28oct_cirque_output%20(1).pdf
Incognito
nter the choice
nter the item to be inserted
0
:INSERTREAR
:DELETEFRONT
:DISPLAY
:EXIT
nter the choice
nter the item to be inserted
0
Type here to search
ENG
22:53
03-01-2021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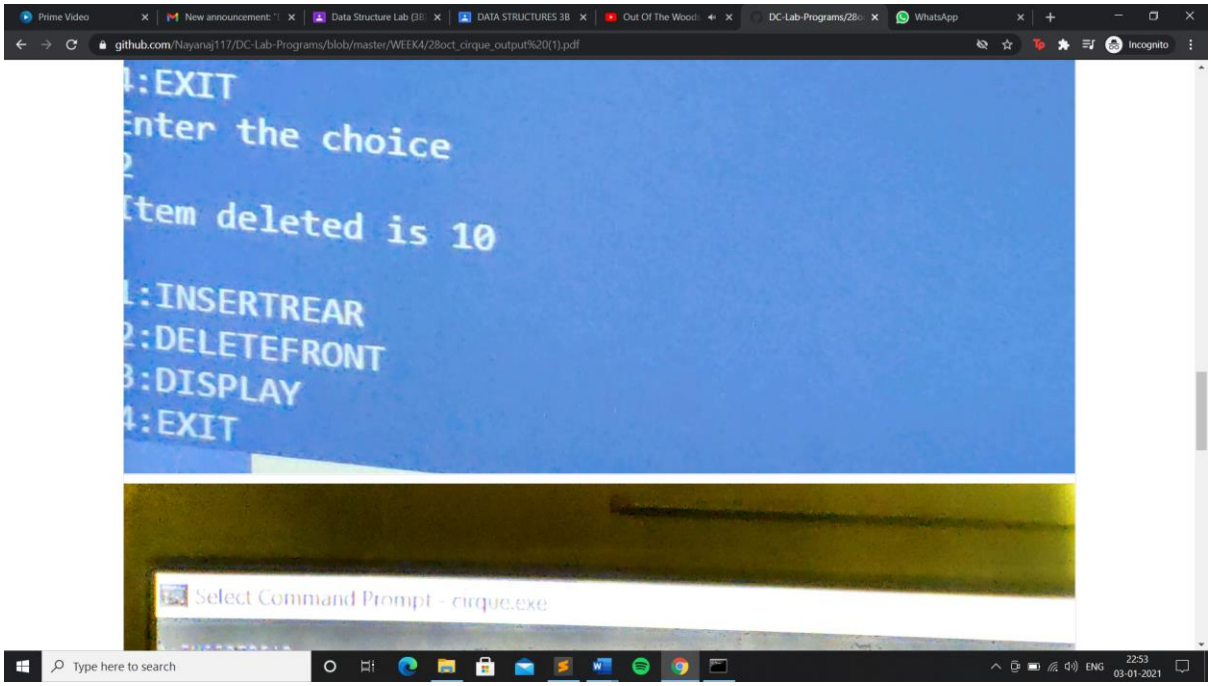
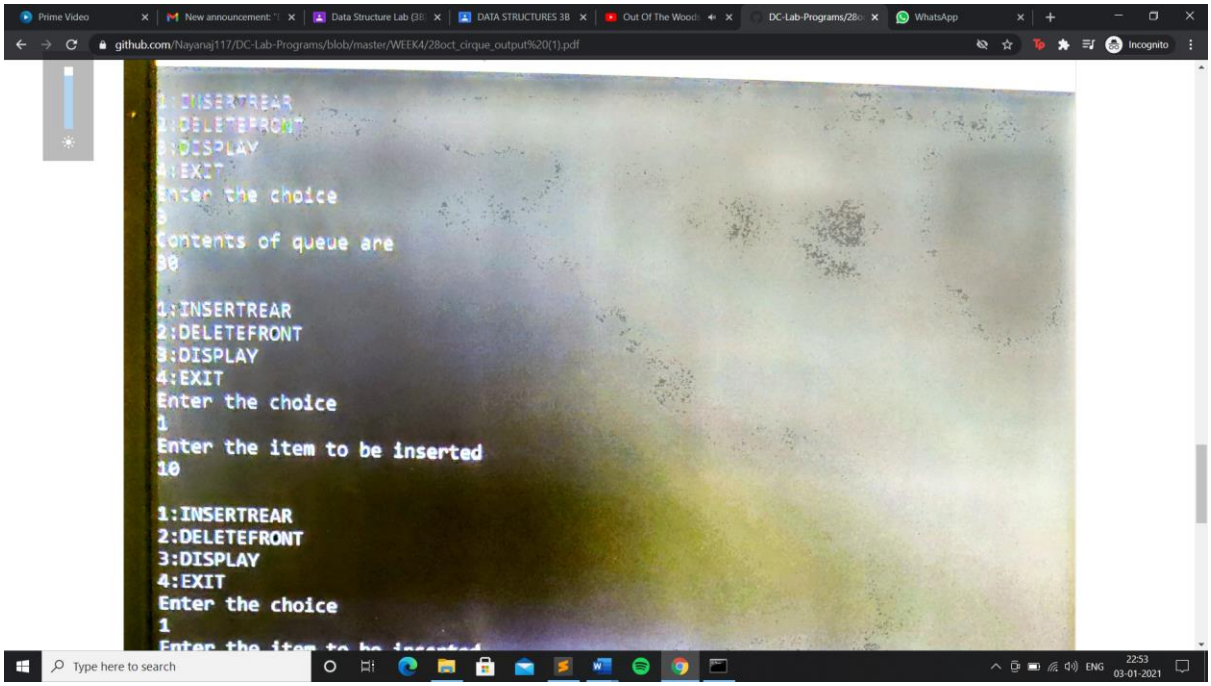
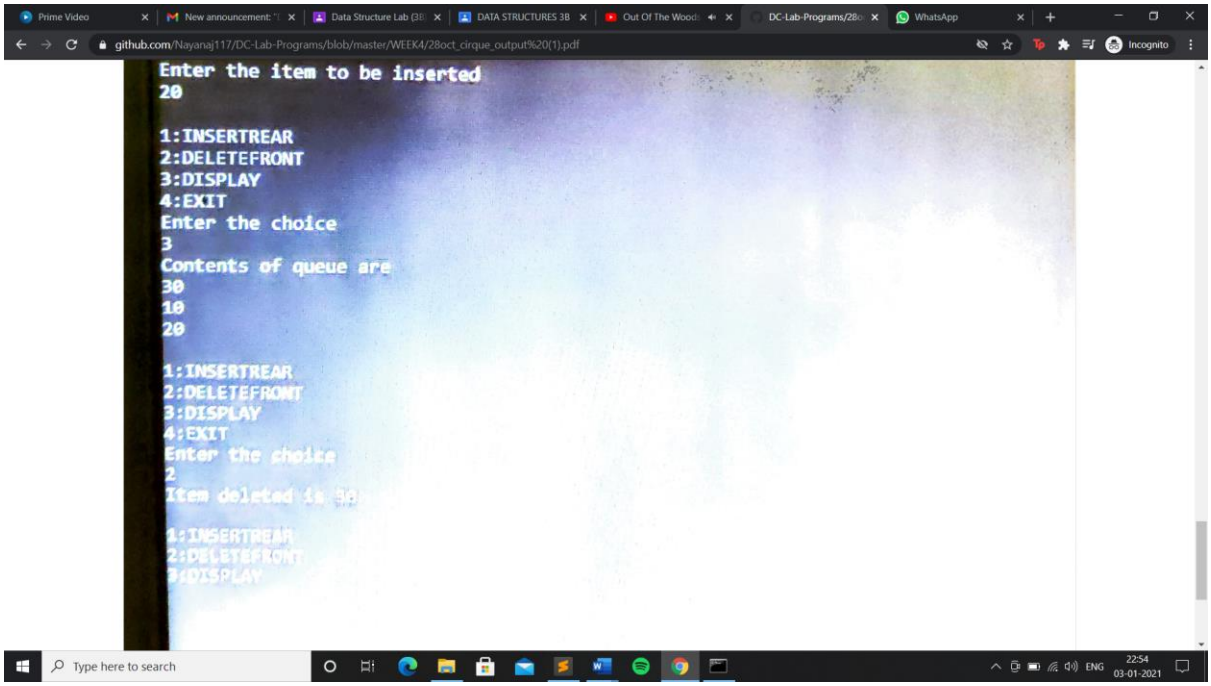
DC-Lab-Programs/28o
WhatsApp
github.com/Nayanaj117/DC-Lab-Programs/blob/master/WEEK4/28oct_cirque_output%20(1).pdf
Incognito
:INSERTREAR
:DELETEFRONT
:DISPLAY
:EXIT
nter the choice
nter the item to be inserted
0
ueue overflow
:INSERTREAR
:DELETEFRONT
Type here to search
ENG
22:53
03-01-2021


github.com/Nayanaj117/DC-Lab-Programs/blob/master/WEEK4/28oct_cirque_output%20(1).pdf
:EXIT
nter the choice
tem deleted is 10
:INSERTREAR
:DELETEFRONT
:DISPLAY
:EXIT
Select Command Prompt - cirque.exe
Type here to search
ENG
22:53
03-01-2021


github.com/Nayanaj117/DC-Lab-Programs/blob/master/WEEK4/28oct_cirque_output%20(1).pdf
Contents of queue are
10
1:INSERTREAR
2:DELETEFRONT
3:DISPLAY
4:EXIT
Enter the choice
1
Enter the item to be inserted
10
1:INSERTREAR
2:DELETEFRONT
3:DISPLAY
4:EXIT
Enter the choice
1
Type here to search
ENG
22:53
03-01-2021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WhatsApp
github.com/Nayanaj117/DC-Lab-Programs/blob/master/WEEK4/28oct_cirque_output%20(1).pdf
Incognito
Enter the item to be inserted
20
1:INSERTREAR
2:DELETEFRONT
3:DISPLAY
4:EXIT
Enter the choice
3
Contents of queue are
30
10
20
1:INSERTREAR
2:DELETEFRONT
3:DISPLAY
4:EXIT
Enter the choice
2
Item deleted is 30
1:INSERTREAR
2:DELETEFRONT
3:DISPLAY
Type here to search
ENG
22:54
03-01-2021