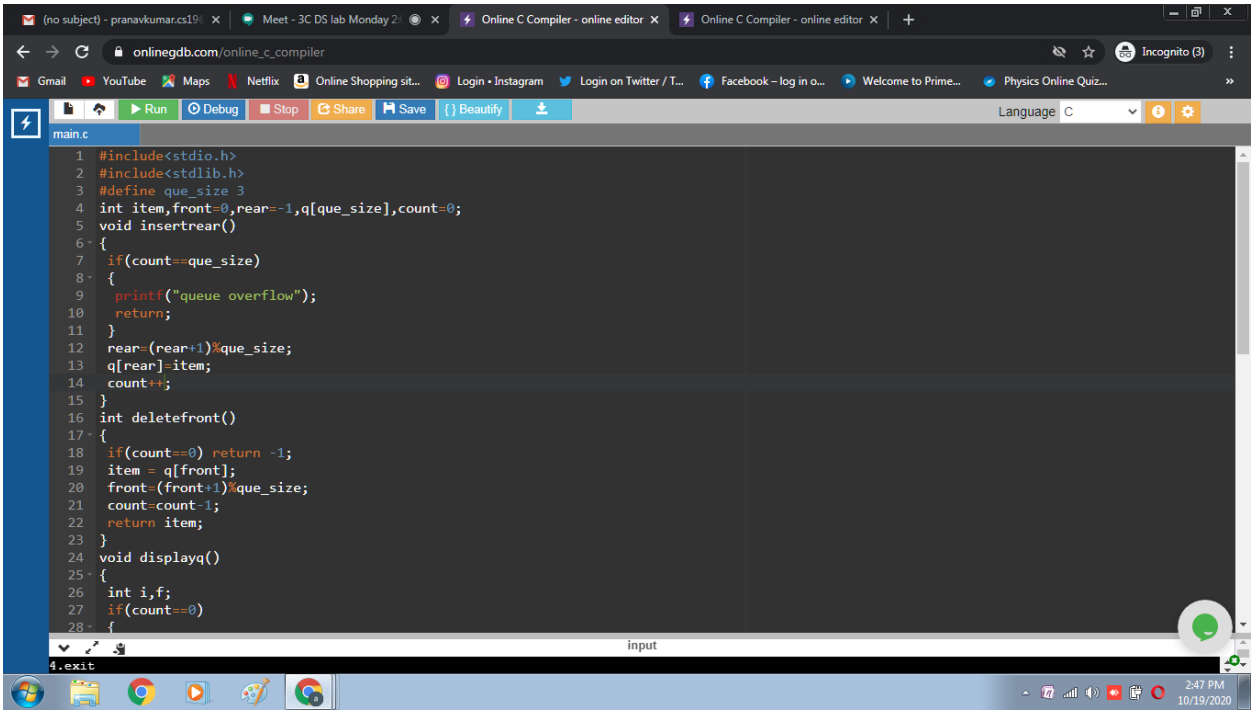
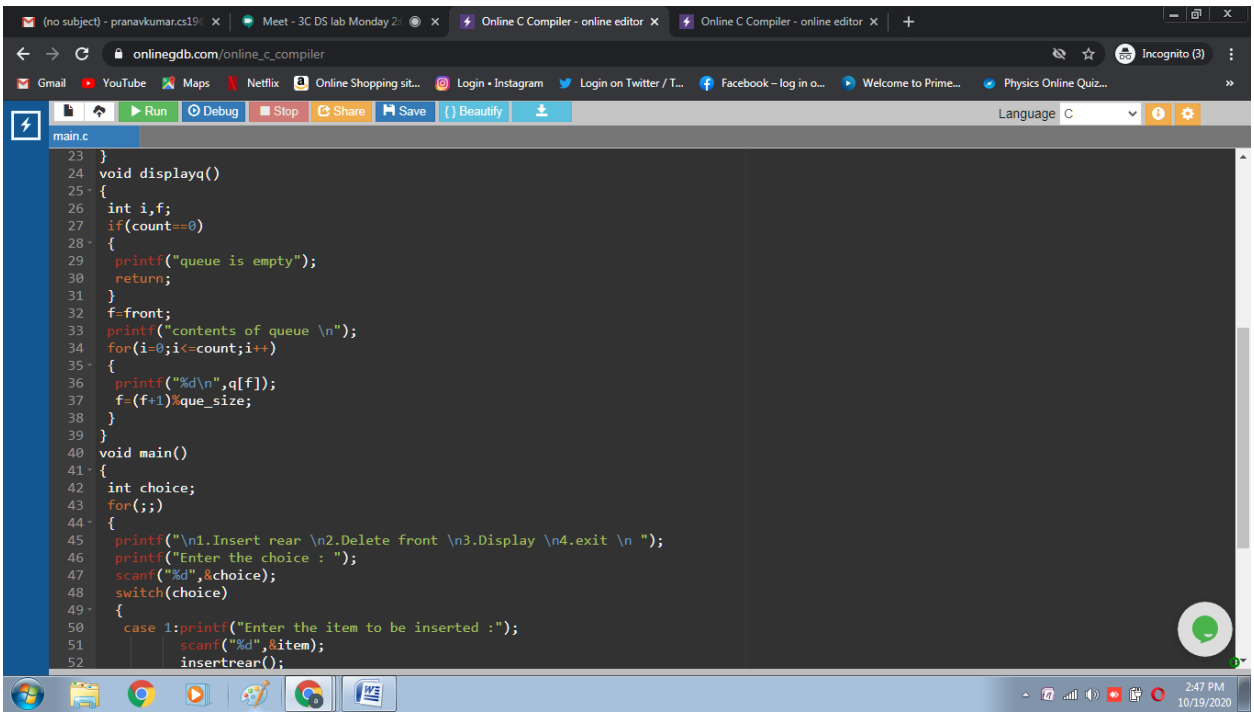


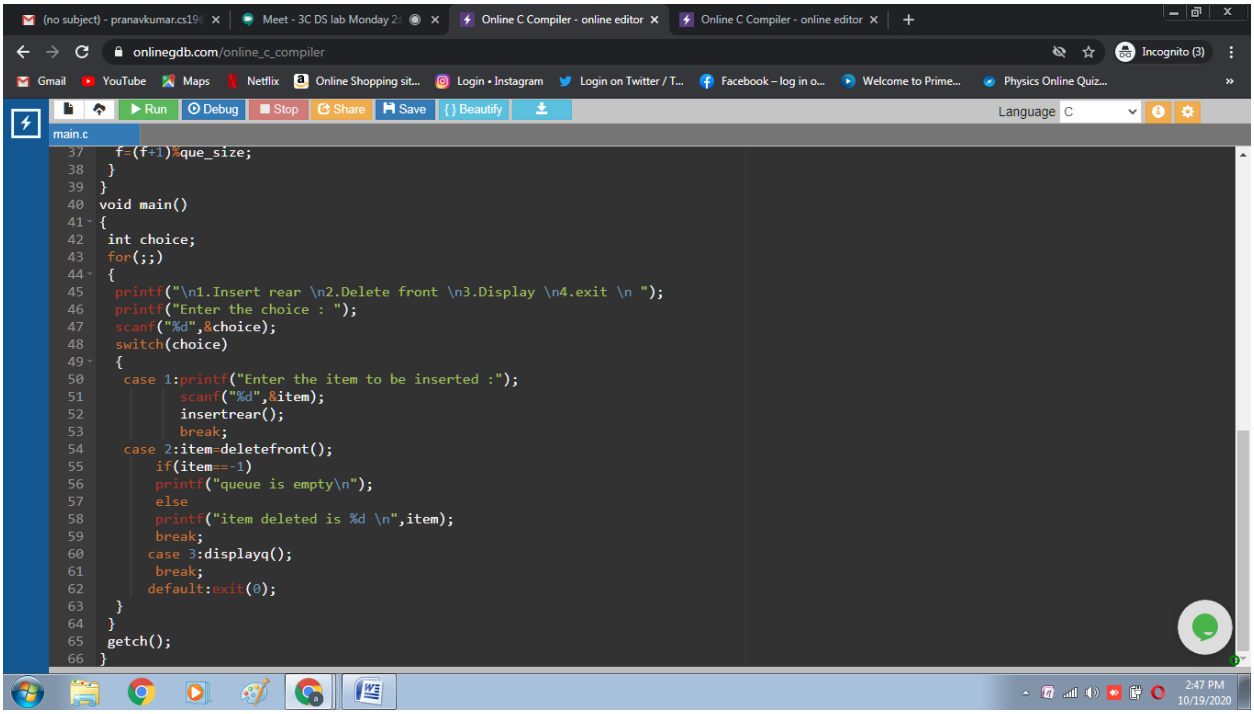
```c
#include<stdio.h>
#include<stdlib.h>
#define que_size 3
int item,front=0,rear=-1,q[que_size],count=0;
void insertrear()
{
 if(count==que_size)
 {
  printf("queue overflow");
  return;
 }
 rear=(rear+1)%que_size;
 q[rear]=item;
 count++;
}
int deletefront()
{
 if(count==0) return -1;
 item = q[front];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

input

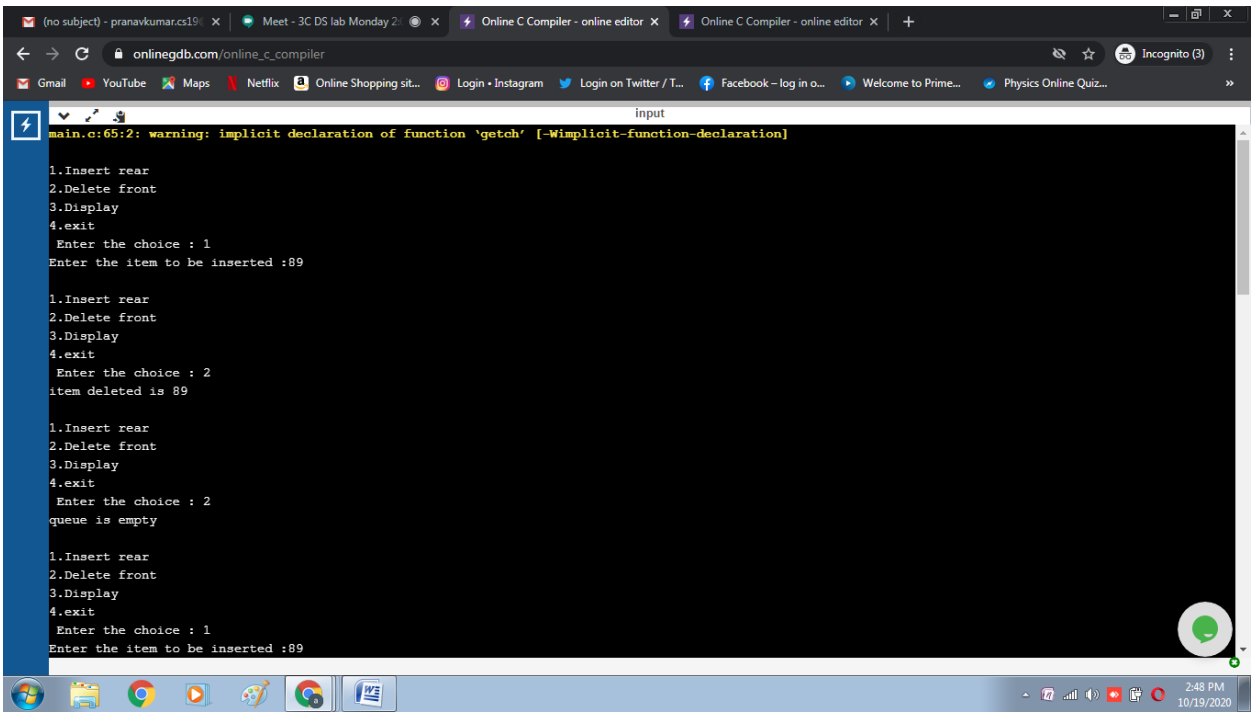
```
4.exit
```



```c
}
void displayq()
{
 int i,f;
 if(count==0)
 {
  printf("queue is empty");
  return;
 }
 f=front;
 printf("contents of queue \n");
 for(i=0;i<=count;i++)
 {
  printf("%d\n",q[f]);
  f=(f+1)%que_size;
 }
}
void main()
{
 int choice;
 for(;;)
 {
  printf("\n1.Insert rear \n2.Delete front \n3.Display \n4.exit \n ");
  printf("Enter the choice : ");
  scanf("%d",&choice);
  switch(choice)
  {
   case 1:printf("Enter the item to be inserted :");
          scanf("%d",&item);
          insertrear();
```



```
  f=(f+1)%que_size;
 }
}
void main()
{
 int choice;
 for(;;)
 {
  printf("\n1.Insert rear \n2.Delete front \n3.Display \n4.exit \n ");
  printf("Enter the choice : ");
  scanf("%d",&choice);
  switch(choice)
  {
   case 1:printf("Enter the item to be inserted :");
          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();
}
```



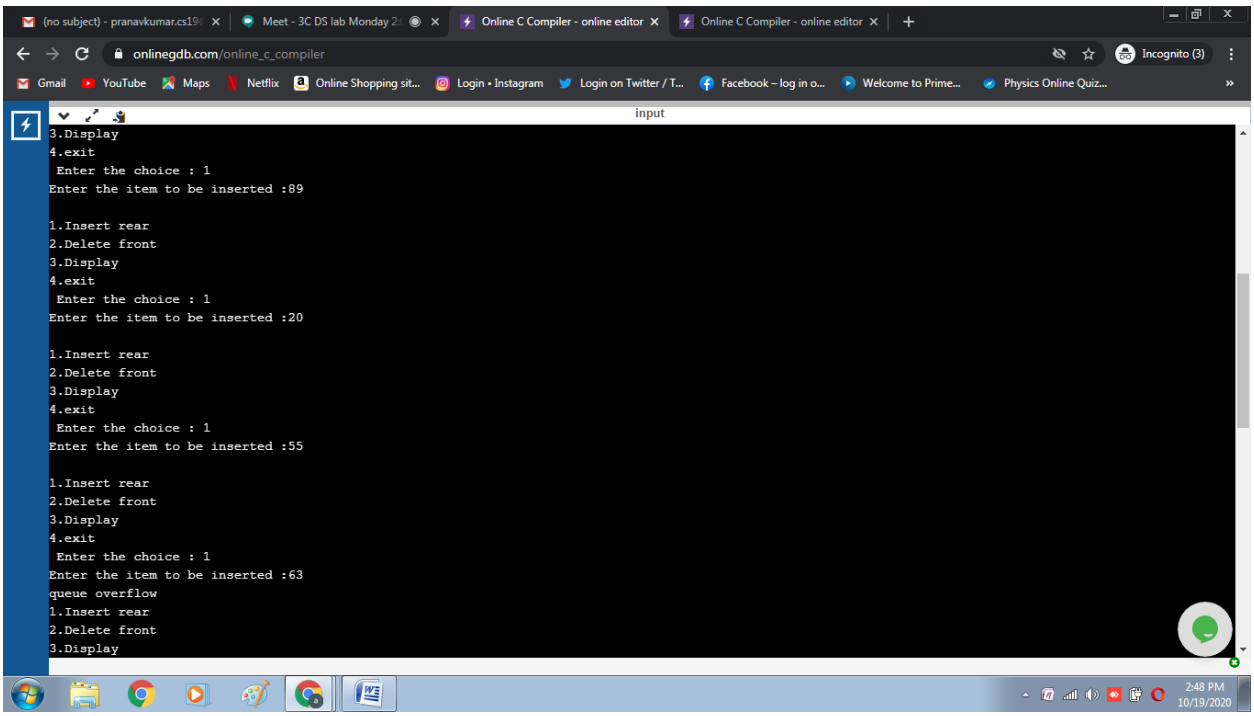
```
main.c:65:2: warning: implicit declaration of function 'getch' [-Wimplicit-function-declaration]

1.Insert rear
2.Delete front
3.Display
4.exit
 Enter the choice : 1
Enter the item to be inserted :89

1.Insert rear
2.Delete front
3.Display
4.exit
 Enter the choice : 2
item deleted is 89

1.Insert rear
2.Delete front
3.Display
4.exit
 Enter the choice : 2
queue is empty

1.Insert rear
2.Delete front
3.Display
4.exit
 Enter the choice : 1
Enter the item to be inserted :89
```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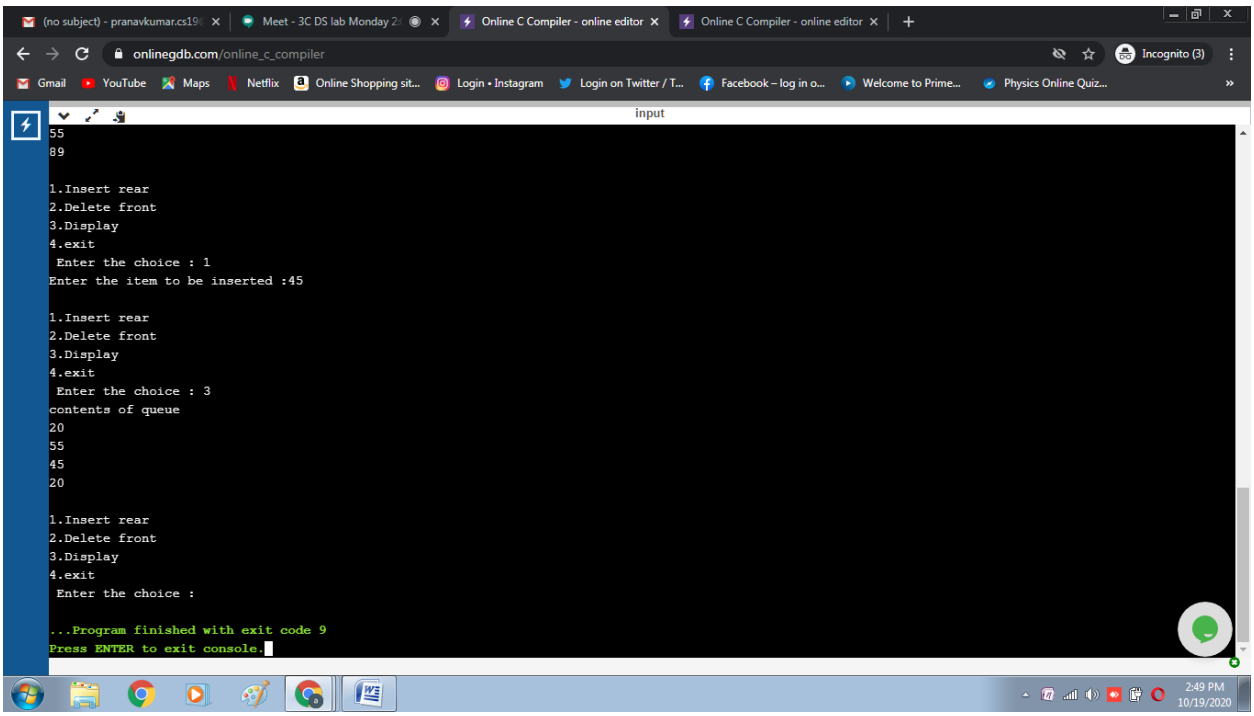
Welcome to Prime...
Physics Online Quiz...
input
3.Display
4.exit
Enter the choice : 1
Enter the item to be inserted :89
1.Insert rear
2.Delete front
3.Display
4.exit
Enter the choice : 1
Enter the item to be inserted :20
1.Insert rear
2.Delete front
3.Display
4.exit
Enter the choice : 1
Enter the item to be inserted :55
1.Insert rear
2.Delete front
3.Display
4.exit
Enter the choice : 1
Enter the item to be inserted :63
queue overflow
1.Insert rear
2.Delete front
3.Display
2:48 PM
10/19/2020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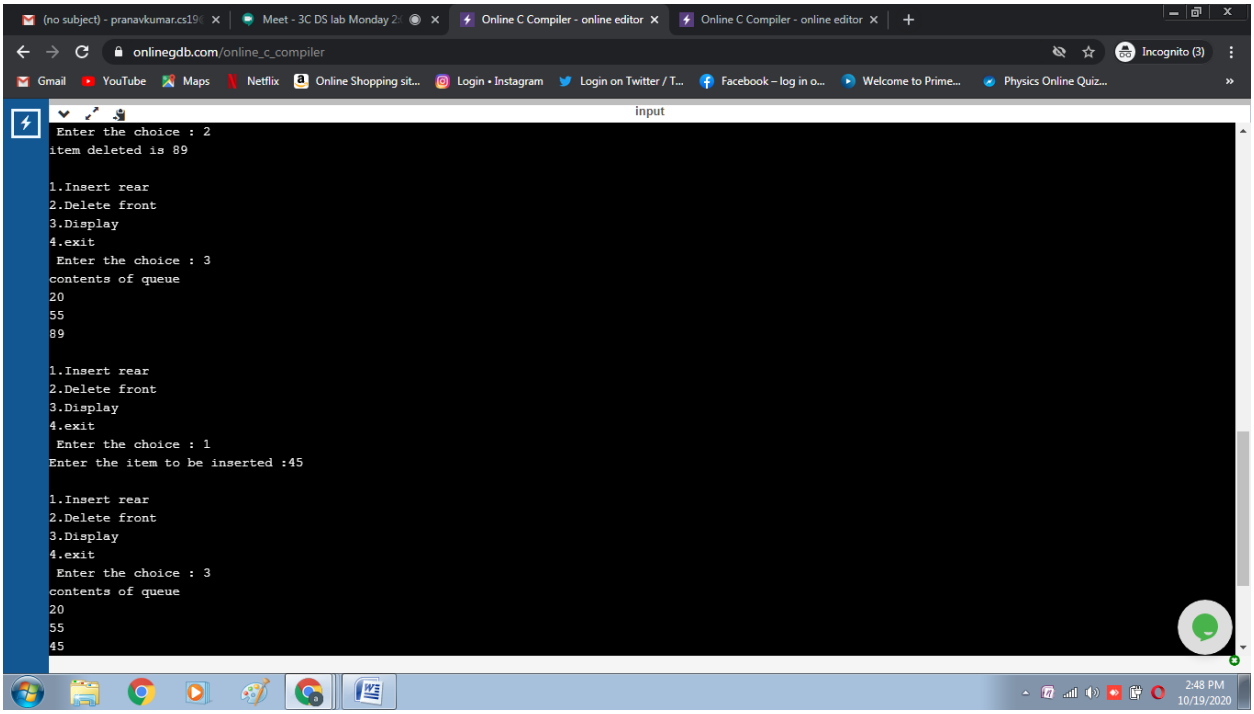
Facebook – log in o...
Welcome to Prime...
Physics Online Quiz...
input
55
89
1.Insert rear
2.Delete front
3.Display
4.exit
Enter the choice : 1
Enter the item to be inserted :45
1.Insert rear
2.Delete front
3.Display
4.exit
Enter the choice : 3
contents of queue
20
55
45
20
1.Insert rear
2.Delete front
3.Display
4.exit
Enter the choice :
...Program finished with exit code 9
Press ENTER to exit console.
2:49 PM
10/19/2020

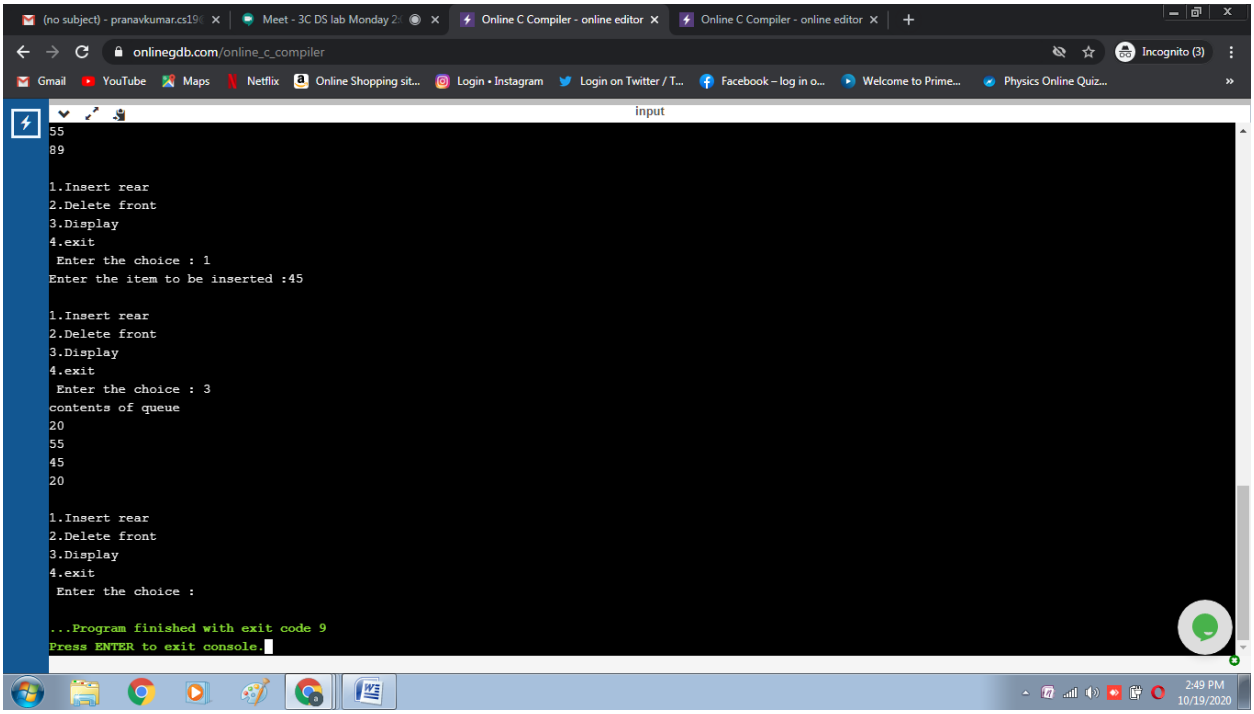
Circular queue

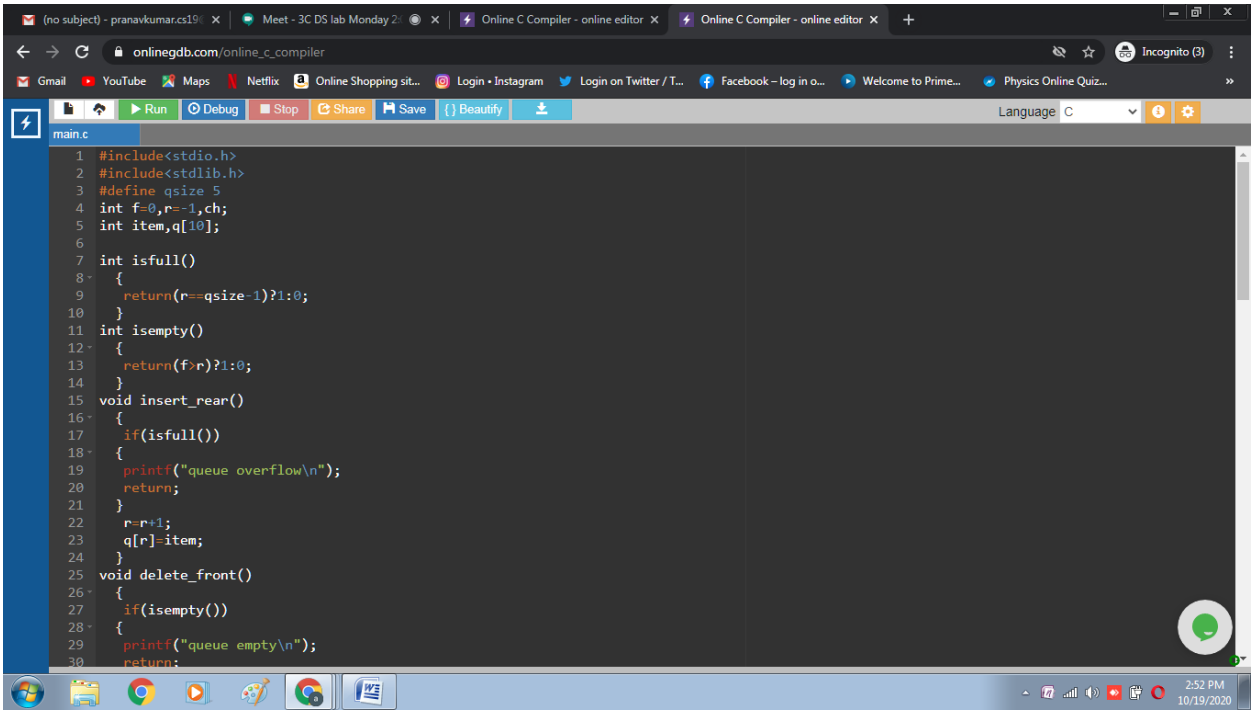
DATE
PAGE 17

```
#include <stdio.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");
     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");
      return;
    }
f=front;
```

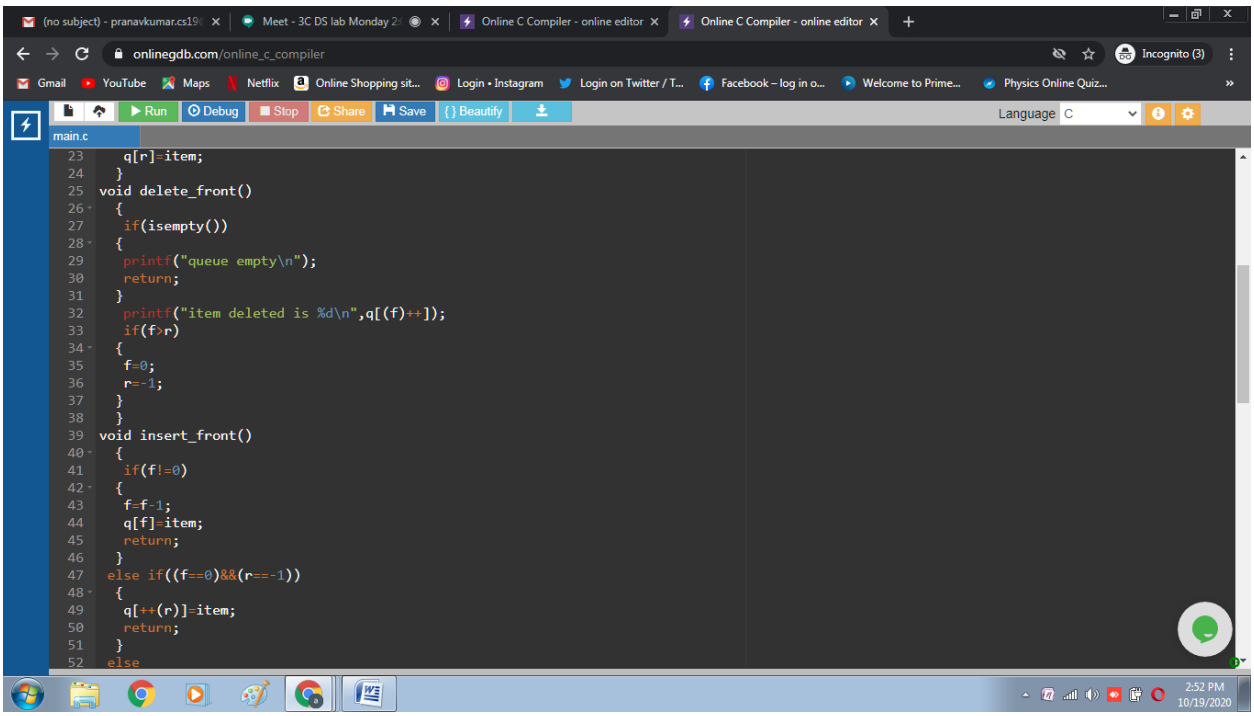
```
printf("contents of queue \n");
for(i=0 ; i<= count ;i++)
{ printf("%d \n",q[f]);
  f=(f+1)%que_size ;
}
}
void main()
{int choice;
  for(;;)
  { printf("\n 1. Insert rear \n 2. Delete front
  \n 3. Display \n 4. exit \n");
printf("Enter the choice:");
scanf("%d",&choice);
switch(choice)
{ case 1: printf("Enter the item to be Inserted :");
          scanf("%d",&item);
          Insertrear();
          break;
  case 2: item=deletfront();
          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();
}
```


input
Enter the choice : 2
item deleted is 89
1.Insert rear
2.Delete front
3.Display
4.exit
Enter the choice : 3
contents of queue
20
55
89
1.Insert rear
2.Delete front
3.Display
4.exit
Enter the choice : 1
Enter the item to be inserted :45
1.Insert rear
2.Delete front
3.Display
4.exit
Enter the choice : 3
contents of queue
20
55
45

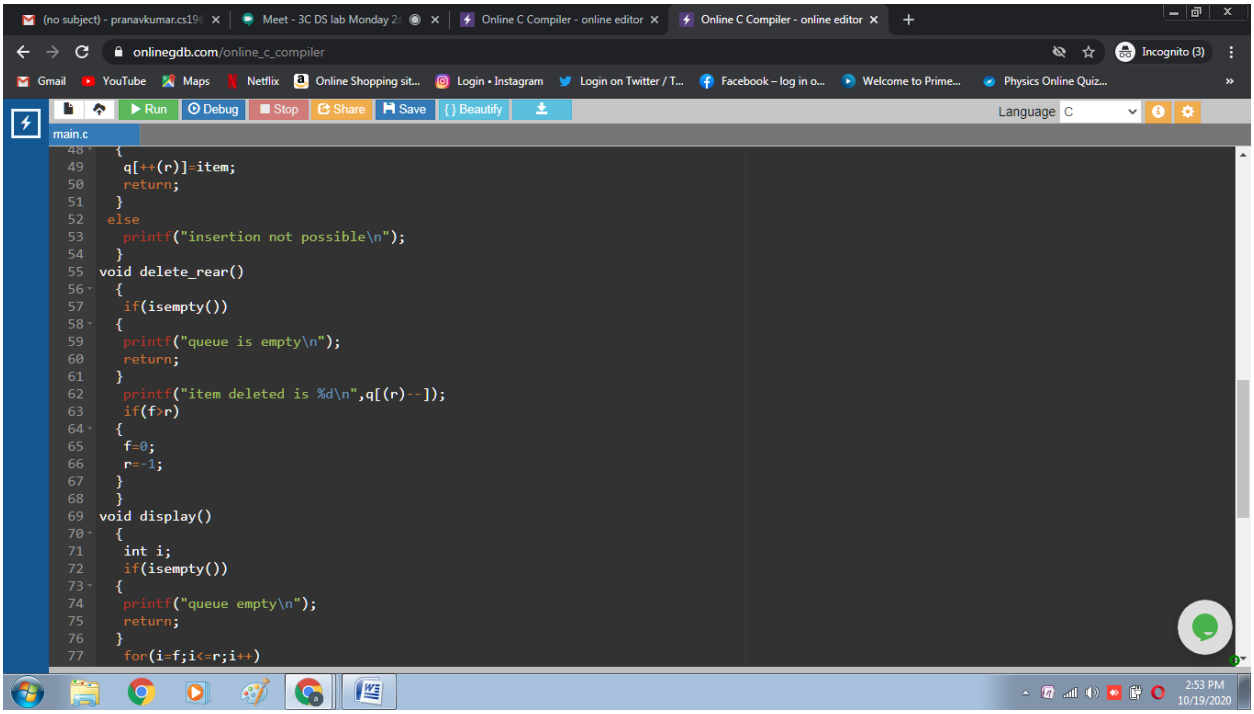

input
55
89
1.Insert rear
2.Delete front
3.Display
4.exit
Enter the choice : 1
Enter the item to be inserted :45
1.Insert rear
2.Delete front
3.Display
4.exit
Enter the choice : 3
contents of queue
20
55
45
20
1.Insert rear
2.Delete front
3.Display
4.exit
Enter the choice :
...Program finished with exit code 9
Press ENTER to exit console.



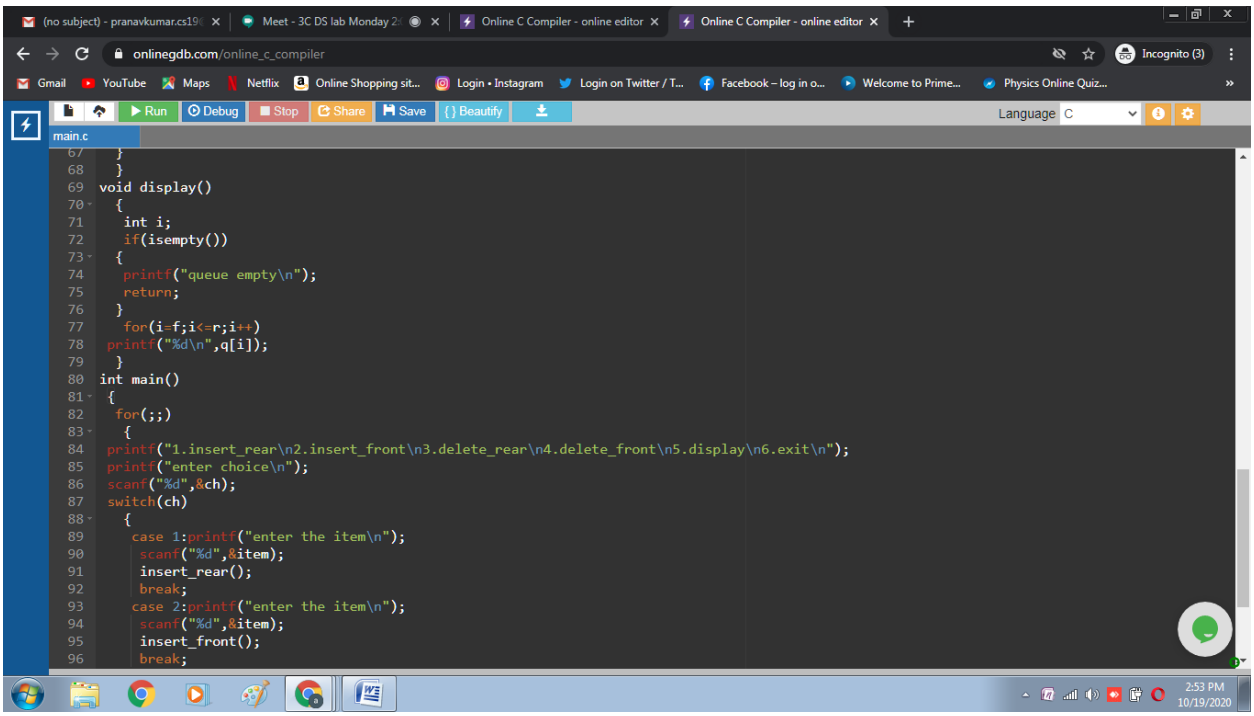
```
#include<stdio.h>
#include<stdlib.h>
#define qsize 5
int f=0,r=-1,ch;
int item,q[10];

int isfull()
  {
   return(r==qsize-1)?1:0;
  }
int isempty()
  {
   return(f>r)?1:0;
  }
void insert_rear()
  {
   if(isfull())
  {
   printf("queue overflow\n");
   return;
  }
   r=r+1;
   q[r]=item;
  }
void delete_front()
  {
   if(isempty())
  {
   printf("queue empty\n");
   return;
```



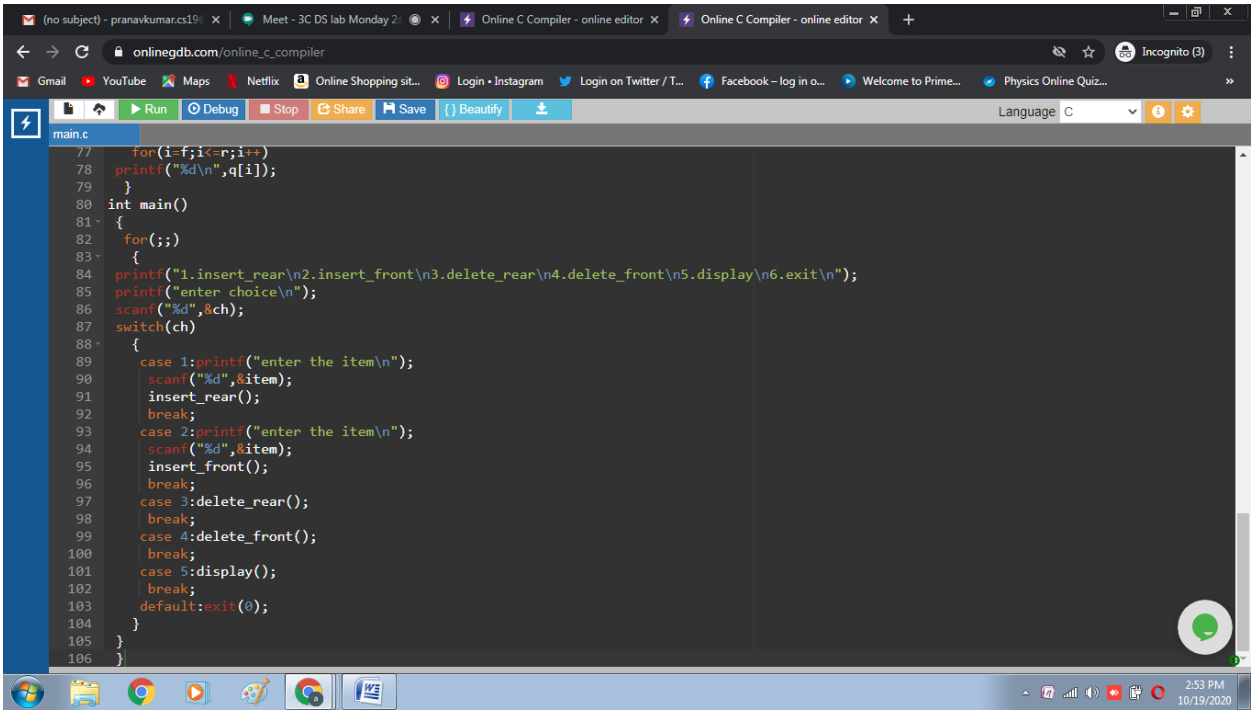
```
   q[r]=item;
  }
void delete_front()
  {
   if(isempty())
  {
   printf("queue empty\n");
   return;
  }
   printf("item deleted is %d\n",q[(f)++]);
   if(f>r)
  {
   f=0;
   r=-1;
  }
  }
void insert_front()
  {
   if(f!=0)
  {
   f=f-1;
   q[f]=item;
   return;
  }
 else if((f==0)&&(r==-1))
  {
   q[++(r)]=item;
   return;
  }
 else
```



```
{
 q[++(r)]=item;
 return;
 }
else
 printf("insertion not possible\n");
 }
void delete_rear()
 {
 if(isempty())
 {
 printf("queue is empty\n");
 return;
 }
 printf("item deleted is %d\n",q[(r)--]);
 if(f>r)
 {
 f=0;
 r=-1;
 }
 }
void display()
 {
 int i;
 if(isempty())
 {
 printf("queue empty\n");
 return;
 }
 for(i=f;i<=r;i++)
```



```
 }
 }
void display()
 {
 int i;
 if(isempty())
 {
 printf("queue empty\n");
 return;
 }
 for(i=f;i<=r;i++)
printf("%d\n",q[i]);
 }
int main()
 {
 for(;;)
 {
printf("1.insert_rear\n2.insert_front\n3.delete_rear\n4.delete_front\n5.display\n6.exit\n");
printf("enter choice\n");
scanf("%d",&ch);
switch(ch)
 {
 case 1:printf("enter the item\n");
 scanf("%d",&item);
 insert_rear();
 break;
 case 2:printf("enter the item\n");
 scanf("%d",&item);
 insert_front();
 break;
```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Debug
Stop
Share
Save
{ } Beautify
Language C
main.c
for(i=f;i<=r;i++)
printf("%d\n",q[i]);
}
int main()
{
for(;;)
{
printf("1.insert_rear\n2.insert_front\n3.delete_rear\n4.delete_front\n5.display\n6.exit\n");
printf("enter choice\n");
scanf("%d",&ch);
switch(ch)
{
case 1:printf("enter the item\n");
scanf("%d",&item);
insert_rear();
break;
case 2:printf("enter the item\n");
scanf("%d",&item);
insert_front();
break;
case 3:delete_rear();
break;
case 4:delete_front();
break;
case 5:display();
break;
default:exit(0);
}
}
}
2:53 PM
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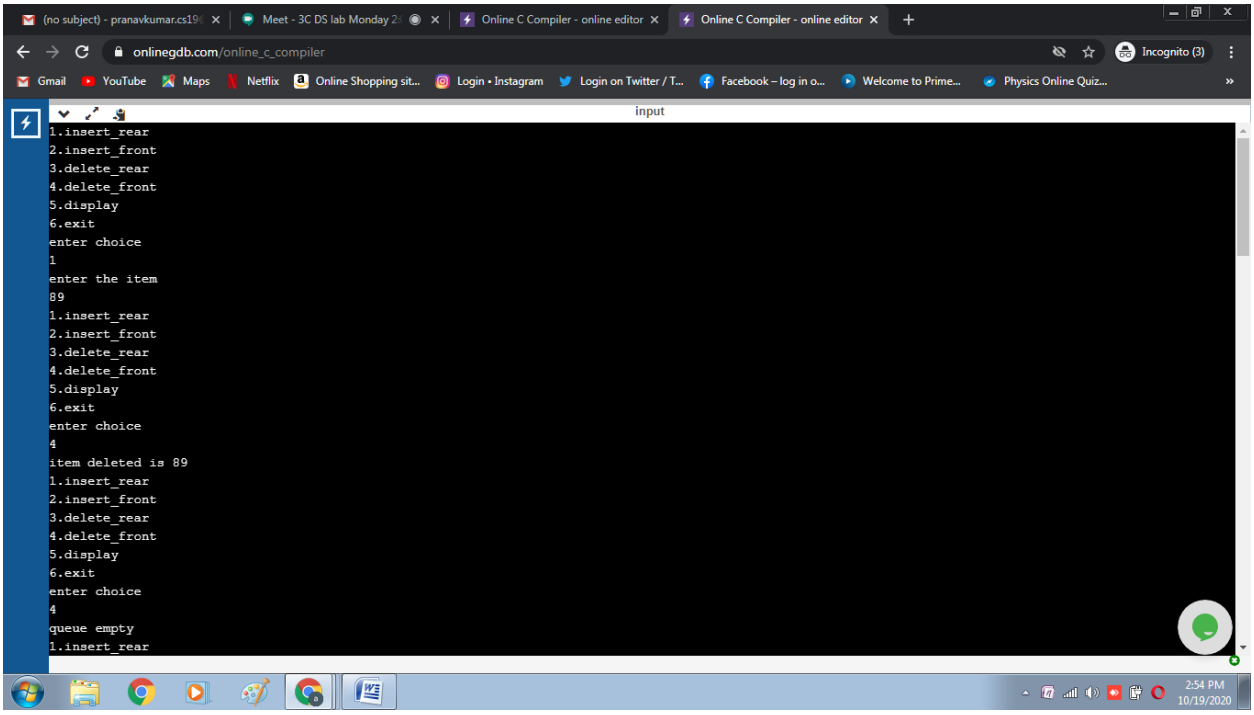
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Facebook – log in o...
Welcome to Prime...
Physics Online Quiz...
input
1.insert_rear
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit
enter choice
1
enter the item
89
1.insert_rear
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit
enter choice
4
item deleted is 89
1.insert_rear
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit
enter choice
4
queue empty
1.insert_rear
2:54 PM
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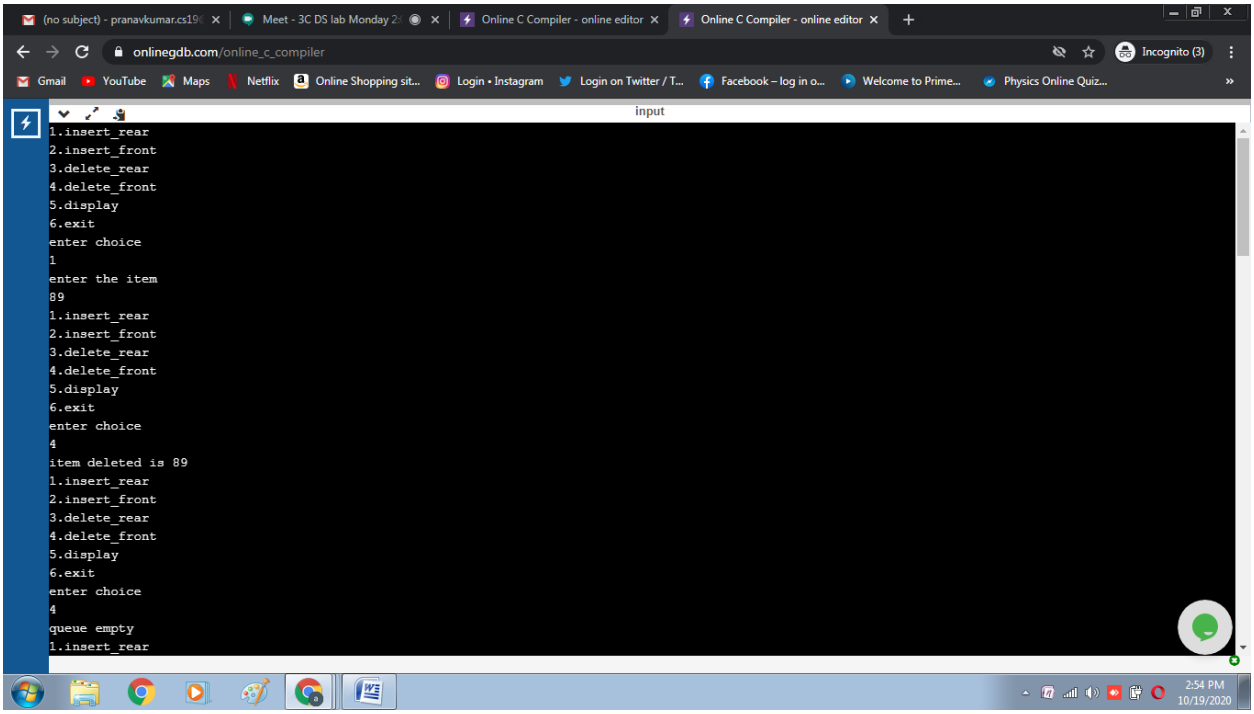
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Welcome to Prime...
Physics Online Quiz...
input
1.insert_rear
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit
enter choice
1
enter the item
89
1.insert_rear
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit
enter choice
4
item deleted is 89
1.insert_rear
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit
enter choice
4
queue empty
1.insert_rear
2:54 PM
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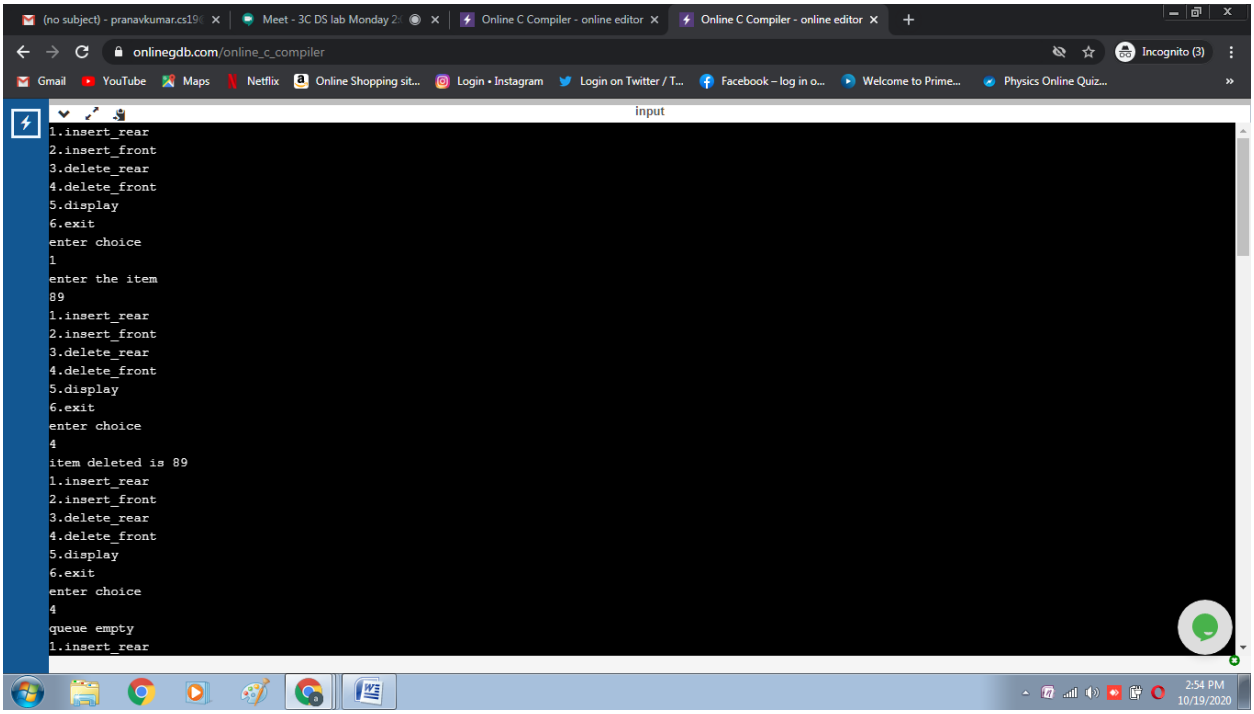
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Facebook – log in o...
Welcome to Prime...
Physics Online Quiz...
input
1.insert_rear
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit
enter choice
1
enter the item
89
1.insert_rear
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit
enter choice
4
item deleted is 89
1.insert_rear
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit
enter choice
4
queue empty
1.insert_rear
2:54 PM
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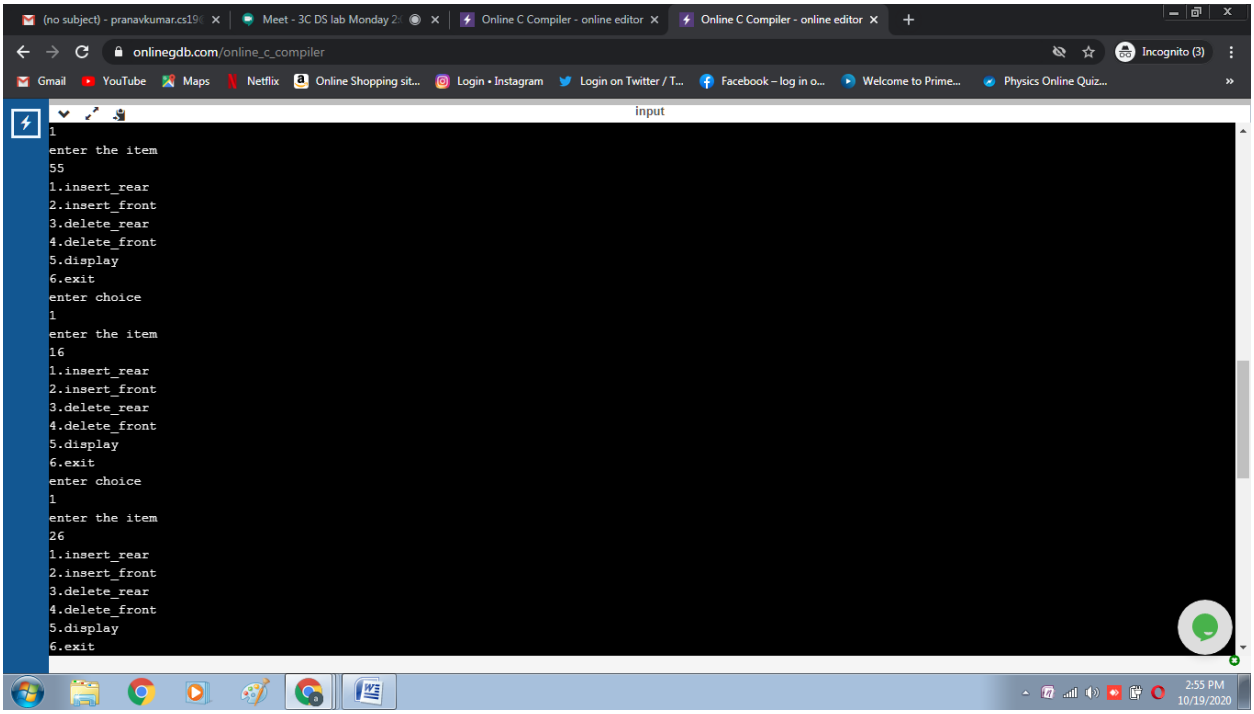
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Facebook – log in o...
Welcome to Prime...
Physics Online Quiz...
input
1
enter the item
55
1.insert_rear
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit
enter choice
1
enter the item
16
1.insert_rear
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit
enter choice
1
enter the item
26
1.insert_rear
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit
2:55 PM
10/19/2020

Dequeue

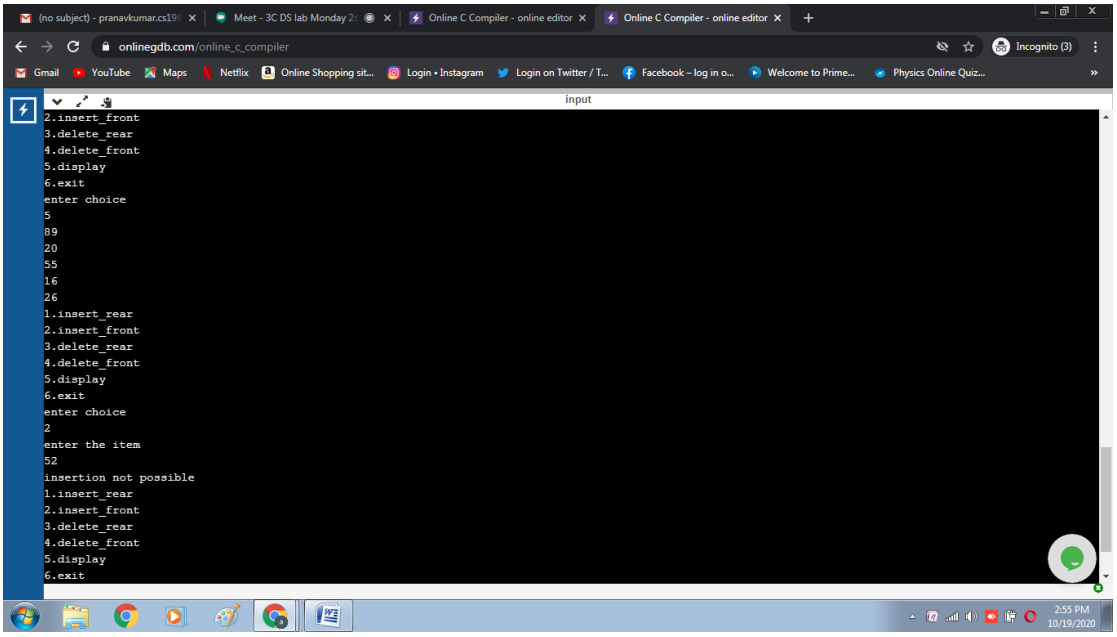
DATE
PAGE 9

```
#include <stdio.h>
#include <stdlib.h>
#define qsize 5.
int f=0, r=-1, ch;
int item, q[10];

int isfull()
  { return(r==qsize-1)?1:0
  }
int isempty()
    {return(f>r)?1:0;
    }
void insert_rear()
   { if (isfull())
    {printf("queue overflow \n");
   return;
   }
   r=r+1;
   q[r]=item;
   }
void delete_front()
   {if(isempty())
  {printf("queue empty \n");
   return;
   }
printf("item deleted is %d \n", q[f++]);
   if(f>r)
   {f=0;
    r=-1;
   }
  }
```

```
void insert_front()
  { if (f!=0)
    { f=f-1;
      q[f]=item;
      return;
    }
   else if ((f==0)&&(r==-1))
    { q[++(r)]=item;
      return;
    }
   else
    printf("Insertion not possible\n");
    }
void delete_rear()
  { if(isempty())
    {printf("queue is empty\n");
     return;
    }
   printf("item deleted is %d\n",q[r--]);
    if(f>r)
    {f=0;
     r=-1;
   }
   }
  void display()
{ int i;
  if(isempty())
   {printf("queue empty\n");
    return;
   }
```

```
for (i=f ; i<=r ; i++)
printf ("%d\n", q[i]);
}
int main()
{ for (;;)
{printf ("1. insert_rear \n 2. insert_front \n
3. delete - rear \n 4. delete_front \n
5. display \n 6. exit \n");
printf ("enter choice \n");
scanf ("%d", &ch);
switch(ch)
{case 1: printf ("enter the item \n");
scanf ("%d", &item);
insert_rear();
break;
case 2: printf ("enter the item \n");
scanf ("%d", &item);
insert_front();
break;
case 3: delete_rear();
break;
case 4: delete_front();
break;
case 5: display();
break;
default: exit(0);
}
}
}
```


onlinegdb.com/online_c_compiler
input
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit
enter choice
5
89
20
55
16
26
1.insert_rear
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit
enter choice
2
enter the item
52
insertion not possible
1.insert_rear
2.insert_front
3.delete_rear
4.delete_front
5.display
6.exit