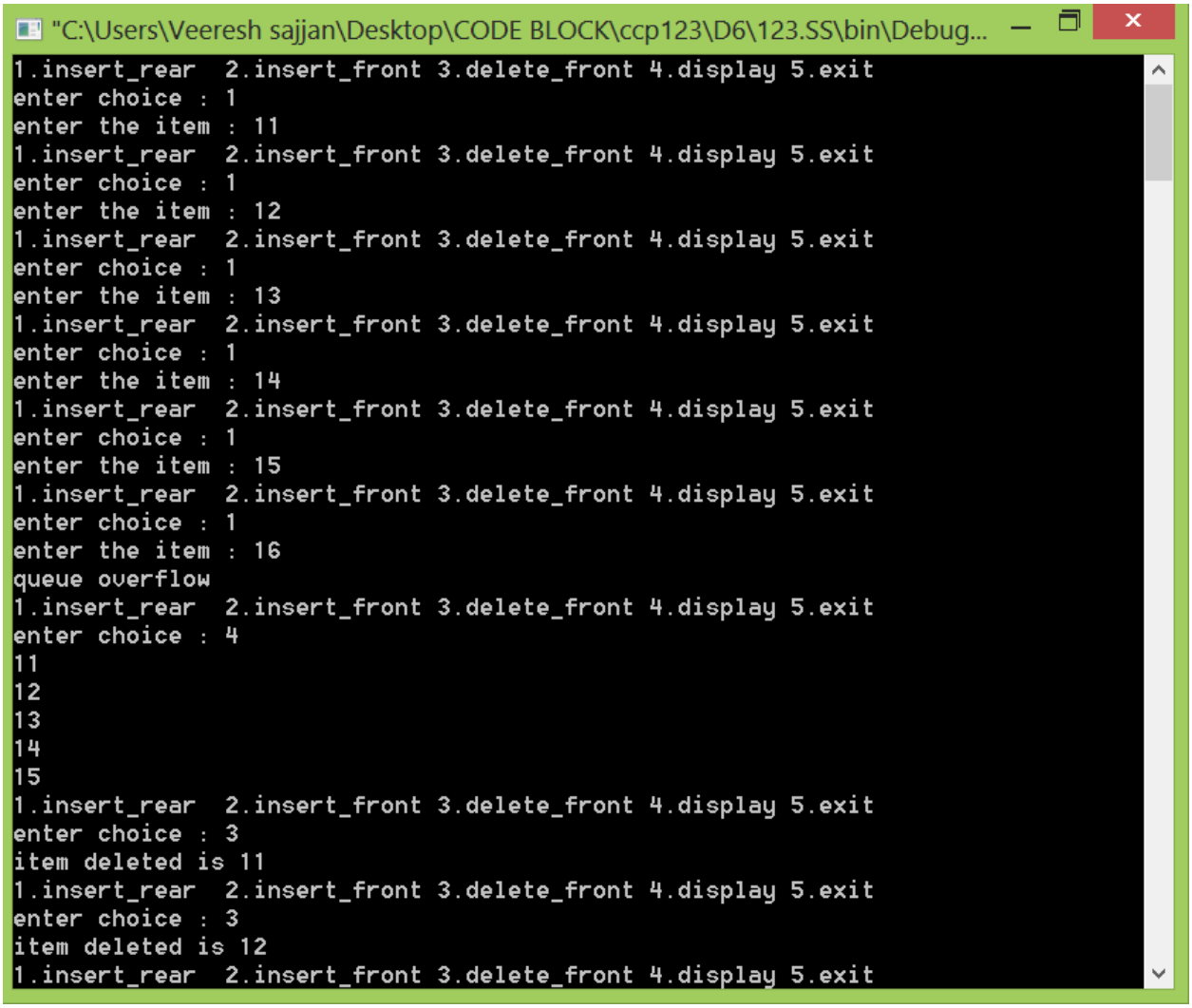
OUTPUT RESTRICTED DQUEUE

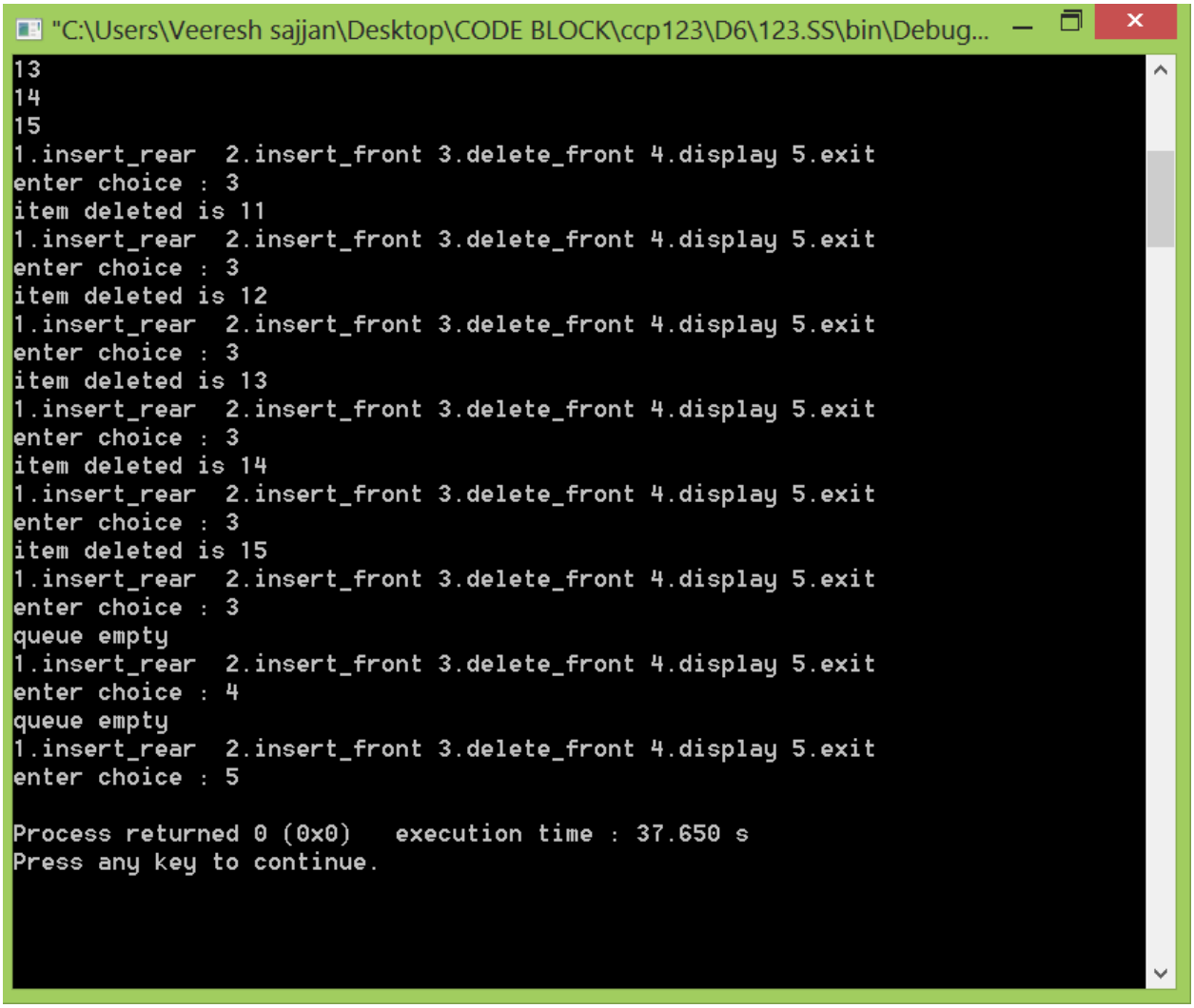
```
#include<stdio.h>
#include<conio.h>
#include<process.h>
#define qsize 5
int f=0,r=-1,ch;
int item,q[10];

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 display()
 {
  int i;
  if(isempty())
```

```
        {
         printf("queue empty\n");
         return;
        }
  for(i=f;i<=r;i++)
        printf("%d\n",q[i]);
 }
void main()
{

 for(;;)
 {
        printf("1.insert_rear  2.insert_front 3.delete_front 4.display 5.exit\n");
        printf("enter choice : ");
        scanf("%d",&ch);
        switch(ch)
         {
          case 1:printf("enter the item : ");
                        scanf("%d",&item);
                        insert_rear();
                        break;
          case 2:printf("enter the item : ");
                        scanf("%d",&item);
                        insert_front();
                        break;
          case 3:delete_front();
                        break;
          case 4:display();
                        break;
          default:exit(0);
```

```
        }
      }
}
```


"C:\Users\Veeresh sajjan\Desktop\CODE BLOCK\ccp123\D6\123.SS\bin\Debug...
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 1
enter the item : 11
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 1
enter the item : 12
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 1
enter the item : 13
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 1
enter the item : 14
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 1
enter the item : 15
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 1
enter the item : 16
queue overflow
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 4
11
12
13
14
15
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 3
item deleted is 11
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 3
item deleted is 12
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit


"C:\Users\Veeresh sajjan\Desktop\CODE BLOCK\ccp123\D6\123.SS\bin\Debug...
13
14
15
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 3
item deleted is 11
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 3
item deleted is 12
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 3
item deleted is 13
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 3
item deleted is 14
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 3
item deleted is 15
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 3
queue empty
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 4
queue empty
1.insert_rear 2.insert_front 3.delete_front 4.display 5.exit
enter choice : 5
Process returned 0 (0x0)   execution time : 37.650 s
Press any key to continue.