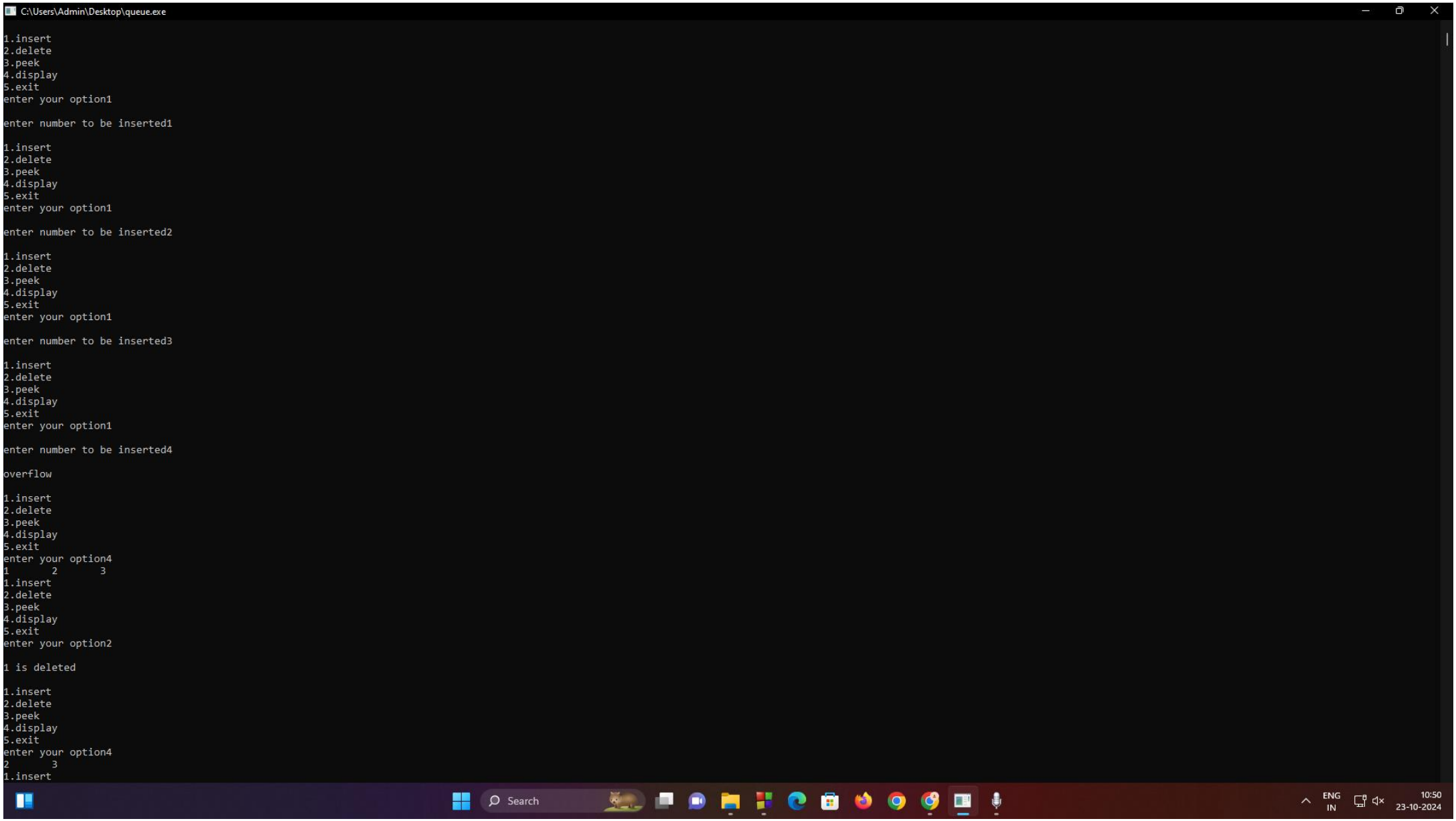
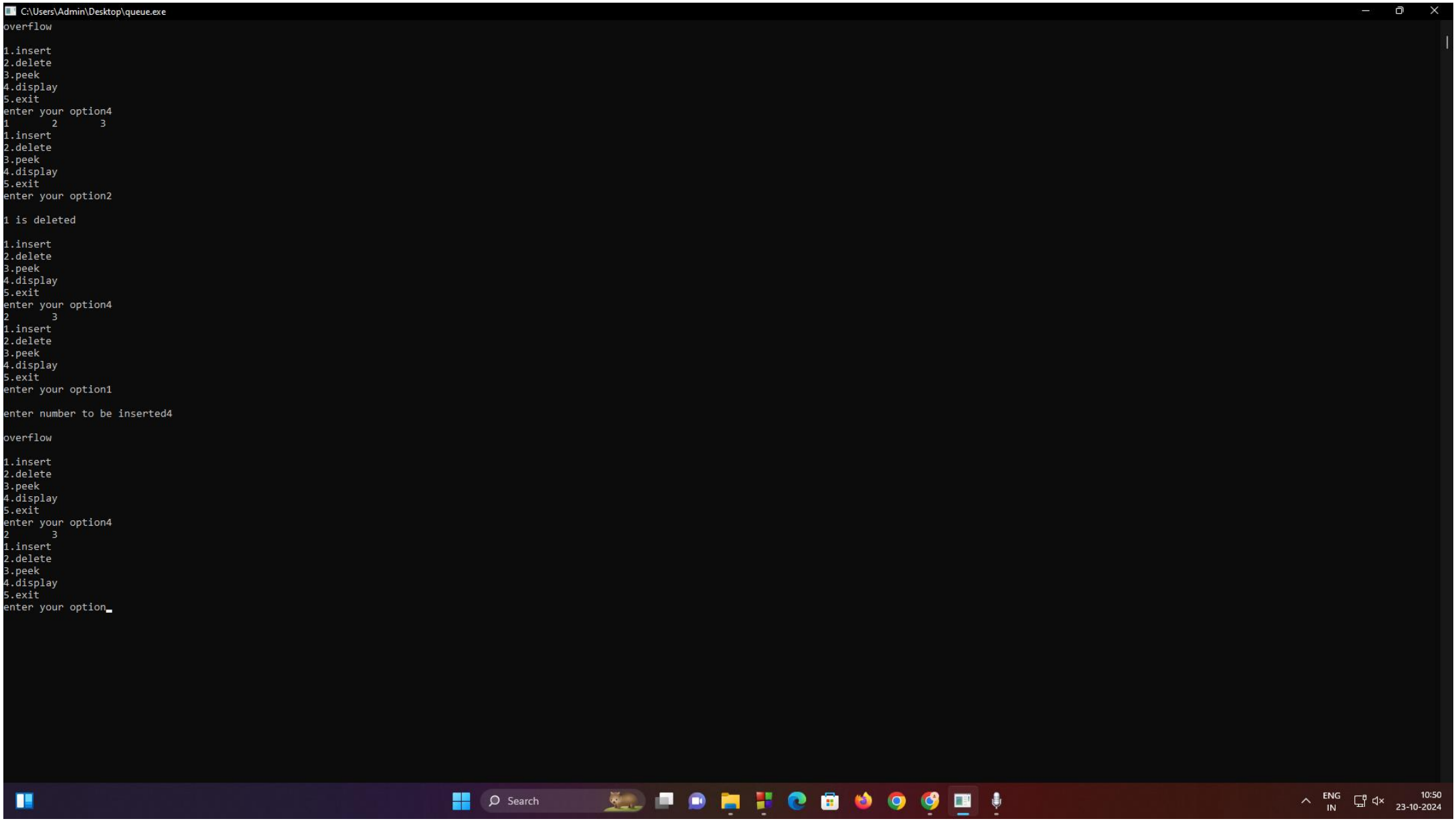
Start here | queue.c | circular queue.c

```c
#include <stdio.h>
#include<stdlib.h>
#define size 3
int queue[size],front=-1,rear=-1,val,num;
void enqueue(int num);
int dequeue();
int peek();
void display();
void main()
{


    while(1)

    {
         int option;
        printf("\n1.insert\n2.delete\n3.peek\n4.display\n5.exit");
        printf("\nenter your option");
        scanf("%d",&option);
        switch(option)
        {
            case 1:printf("\nenter number to be inserted");
            scanf("%d",&num);
            enqueue(num);
            break;
            case 2:val=dequeue();
            if( val!=-1)
                printf("\n%d is deleted\n",val);
            break;
            case 3:
                val=peek();
                if(val!=-1)
                    printf("\n%d is the first element in the queue\n",val);
                break;
                case 4:display();
                break;
                case 5:exit(0);
                default:printf("\ninvalid choice");
        }
    }
}
void enqueue(int num)
{
    if(rear==size-1){
        printf("\noverflow\n");
        return;
    }
```

```
46          return;
47      }
48       if(rear==-1 && front==-1)
49      {
50
51          rear=front=0;
52      }
53      else
54          rear++;
55      queue[rear]=num;
56  }
57  int dequeue()
58  {
59      if( front ==-1 || front>rear)
60      {printf("\nunderflow\n");
61      return -1;
62      return;
63      }
64      else
65      {
66          val=queue[front];
67          front++;
68          if( front>rear)
69          {
70              front=rear=-1;
71          }
72          return val;
73      }
74  }
75  int peek()
76  {
77      if(front==-1 || front>rear)
78      {
79          printf("\nqueue is empty\n");
80          return -1;
81
82      }
83      else
84      {
85          return queue[front];
86      }
87  }
88  void display()
89
90  {
91      int i;
92      if( front==-1 || front>rear)
```

```
87      }
88      void display()
89
90      {
91          int i;
92          if( front==-1 || front>rear)
93              printf("\nqueue is empty\n");
94          else
95          {
96              for( i=front;i<=rear;i++)
97                  printf("%d\t",queue[i]);
98          }
99      }
100
```


C:\Users\Admin\Desktop\queue.exe
1.insert
2.delete
3.peek
4.display
5.exit
enter your option1
enter number to be inserted1
1.insert
2.delete
3.peek
4.display
5.exit
enter your option1
enter number to be inserted2
1.insert
2.delete
3.peek
4.display
5.exit
enter your option1
enter number to be inserted3
1.insert
2.delete
3.peek
4.display
5.exit
enter your option1
enter number to be inserted4
overflow
1.insert
2.delete
3.peek
4.display
5.exit
enter your option4
1 2 3
1.insert
2.delete
3.peek
4.display
5.exit
enter your option2
1 is deleted
1.insert
2.delete
3.peek
4.display
5.exit
enter your option4
2 3
1.insert
Search
ENG
IN
10:50
23-10-2024


C:\Users\Admin\Desktop\queue.exe
overflow
1.insert
2.delete
3.peek
4.display
5.exit
enter your option4
1 2 3
1.insert
2.delete
3.peek
4.display
5.exit
enter your option2
1 is deleted
1.insert
2.delete
3.peek
4.display
5.exit
enter your option4
2 3
1.insert
2.delete
3.peek
4.display
5.exit
enter your option1
enter number to be inserted4
overflow
1.insert
2.delete
3.peek
4.display
5.exit
enter your option4
2 3
1.insert
2.delete
3.peek
4.display
5.exit
enter your option
Search
ENG
IN
10:50
23-10-2024