```c
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#define MAX 4

int pq [MAX];
int count = 0;
int d = 0;

void insert (int data)
{
    int i = 0;
    if (count == MAX)
    {
        pf ("Queue overflow");
        return;
    }
    if (count == 0)                    // if queue is empty.
    {
        pq [count ++] = data;
    }
    else
    {                                  // start from right/bottom end of queue.
        for (int i = count - 1; i >= 0; i--)     // if data is small shift up/right
        {
            if (data < pq [i])
            {
                pq [i + 1] = pq [i];
            }
            else
            { break;
            }
        }
```

```
        pq[i+1] = data;
        count++;
      }
  }
int removeData()
  {
      return pq[d++];
  }
void display()
  {
      int i;
      if (count==0)
      {
          pf(" Queue is empty");
          return;
      }
      pf(" Contents of queue");
      for (i=d; i<count; i++)
      {
          pf(" .1.d", pq[i]);
      }
      pf(" \n");
  }
int main()
      {
```

```c
int choice, item;
for(;;)
{
    printf(" 1. Insert 2. delete 3. Display 4. Exit");
    pf(" Enter choice");
    sf(".%d", &ch);
    switch (choice)
    {
    case 1: pf(" Enter item");
        sf(".%d", &item);
            insertData(item);
        break;
    case 2:
        item = removed();
        if(item == -1)
            pf(" Queue is empty \n");
        else
            pf(" Item deleted from queue .%d", item);
            break;
    case 3: display();
            break;
    default: exit(0);
    }
}
```

```
C:\Users\91966\Desktop\DSLAB>gcc pqueue.c -o pqueue

C:\Users\91966\Desktop\DSLAB>pqueue.exe

1:INSERT_ELEMENT
 2:DELETE_ELEMENT
3:DISPLAY
4:EXIT
Enter the choice :1
Enter the item to be inserted :8

1:INSERT_ELEMENT
 2:DELETE_ELEMENT
3:DISPLAY
4:EXIT
Enter the choice :1
Enter the item to be inserted :23

1:INSERT_ELEMENT
 2:DELETE_ELEMENT
3:DISPLAY
4:EXIT
Enter the choice :1
Enter the item to be inserted :56

1:INSERT_ELEMENT
 2:DELETE_ELEMENT
3:DISPLAY
4:EXIT
Enter the choice :1
Enter the item to be inserted :2
Queue overflow

1:INSERT_ELEMENT
 2:DELETE_ELEMENT
3:DISPLAY
4:EXIT
Enter the choice :3
Contents of queue: 8 23 56

1:INSERT_ELEMENT
 2:DELETE_ELEMENT
3:DISPLAY
4:EXIT
Enter the choice :
```