#include <stdio.h>

#include <stdlib.h>

typedef struct node

{

    int data;

    int priority;

    struct node \*next;

} node;

node \*head = NULL;

node \*createNode(int data, int priority)

{

    node \*nnode = (node \*)malloc(sizeof(node));

    nnode->next = NULL;

    nnode->data = data;

    nnode->priority = priority;

    return nnode;

}

void enqueue(int data, int priority)

{

    node \*newNode = createNode(data, priority);

    if (!head || head->priority < newNode->priority)

    {

        newNode->next = head;

        head = newNode;

    }

    else

    {

        node \*temp = head;

        node \*prev;

        while (temp != NULL && newNode->priority <= temp->priority)

        {

            prev = temp;

            temp = temp->next;

        }

        prev->next = newNode;

        newNode->next = temp;

    }

    return;

}

void dequeue()

{

    if (!head)

    {

        printf("Queue is empty\n");

        return;

    }

    node \*temp = head;

    head = head->next;

    free(temp);

    temp = NULL;

    return;

}

void displayQueue()

{

    node \*temp = head;

    while (temp)

    {

        printf("%d ", temp->data);

        temp = temp->next;

    }

    printf("\n");

    return;

}

int main()

{

    enqueue(34, 2);

    enqueue(7, 100);

    enqueue(50, 2);

    enqueue(69, 7);

    enqueue(33, 6);

    enqueue(57, 100);

    enqueue(40, 6);

    displayQueue();

    dequeue();

    dequeue();

    dequeue();

    displayQueue();

    return 0;

}

