**Assignment 4**

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Problem Statement:

Write a C program to implement descending priority queue

using arrays.

#include <stdio.h>

#include <stdlib.h>

struct Queue\* createQueue();

void enQueue(struct Queue \*tempQueue,int data);

int deQueue(struct Queue \*tempQueue);

struct Queue

{

    int top,end;

    int arr[50];

};

void main(){

    struct Queue \*newQueue;

    newQueue = createQueue();

    printf("Enter number of elements you want to enter\n");

    int n;

    scanf("%d",&n);

    printf("Enter elements\n");

    for(int i =0; i<n; i++){

        int temp=0;

        scanf("%d",&temp);

        enQueue(newQueue,temp);

    }

    // printf("Priority Queue is :\n");

    for (int i = 0; i < newQueue->top+1; i++)

    {

        printf("%d ",newQueue->arr[i]);

    }

}

struct Queue \* createQueue(){

    struct Queue \*tempQueue;

    tempQueue = (struct Queue\*)malloc(sizeof(struct Queue));

    tempQueue->top = -1;

    tempQueue->end = -1;

    return tempQueue;

}

void enQueue(struct Queue \*tempQueue,int data){

    if(tempQueue->top==-1){

        tempQueue->top++;

    }

    tempQueue->end++;

    tempQueue->arr[tempQueue->end]=data;

}

int deQueue(struct Queue \*tempQueue){

    if(tempQueue->end==-1) {

        printf("Queue is empty");

        return 0;

    }

    int temp = tempQueue->arr[tempQueue->top];

    tempQueue->top++;

    return temp;

}

Output:

