PRIORITY QUEUE:

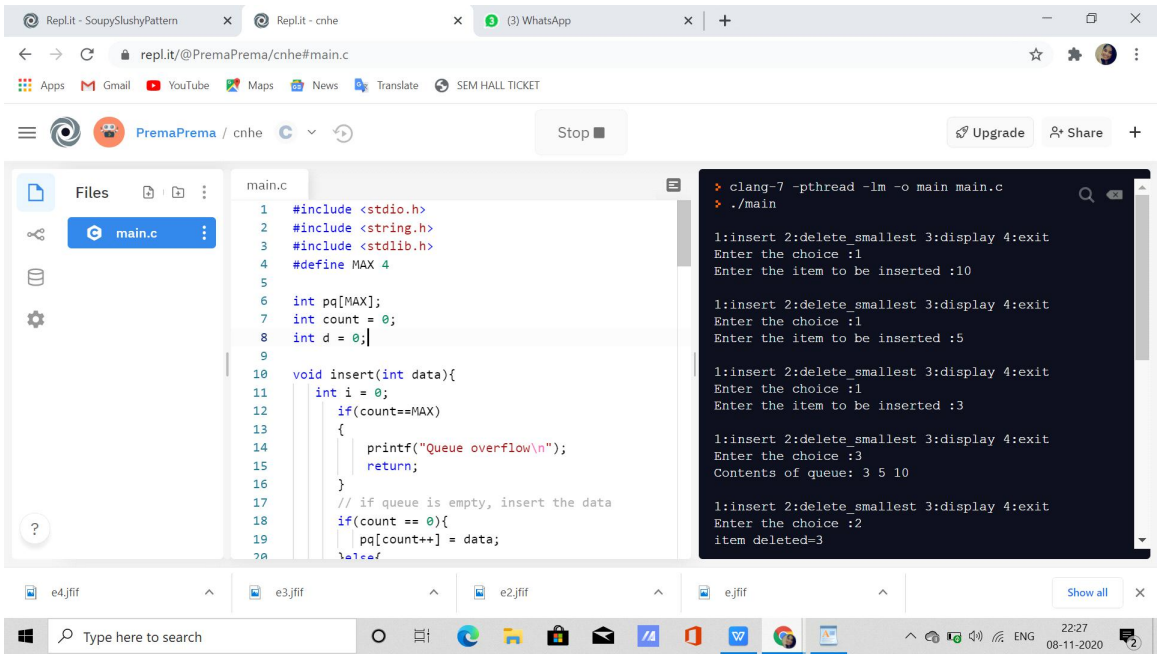
```
#include <stdio.h>

#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)

        {

            printf("Queue overflow\n");

            return;

        }

        // if queue is empty, insert the data

        if(count == 0){

            pq[count++] = data;

        }else{

            // start from the right end of the queue

                for(i = count - 1; i >= 0; i-- ){

            //if data is smaller shift right

                if(data<pq[i]){
```

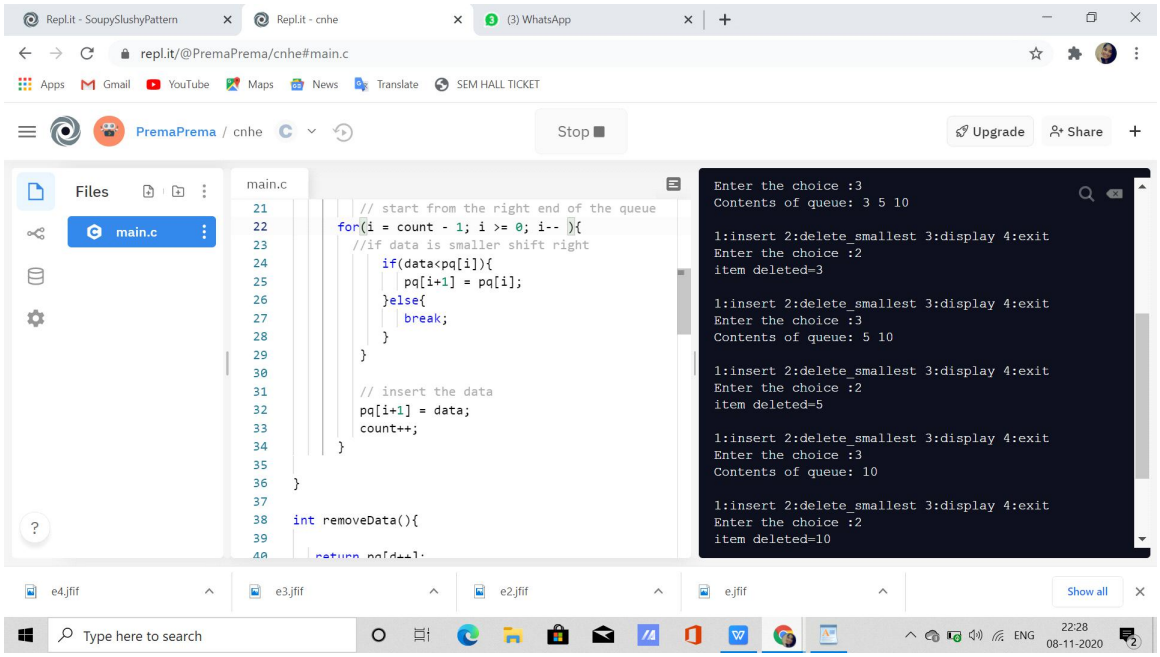
```
                pq[i+1] = pq[i];
            }else{
                break;
            }
        }

        // insert the data
        pq[i+1] = data;
        count++;
    }

}

int removeData(){

    return pq[d++];
}
void display()
{int i;
if (count==0)
{
    printf("queue is empty\n");
    return;
}
printf("Contents of queue: ");
```

```
for(i=d;i<count;i++)
{
        printf("%d ",pq[i]);
}
printf("\n");
}

int main() {
       int choice,item;
        for(;;)
        {
                printf("\n1:insert 2:delete_smallest 3:display 4:exit\n");
                printf("Enter the choice :");
                scanf("%d",&choice);
                switch(choice)
                {
                        case 1:printf("Enter the item to be inserted :");
                        scanf("%d",&item);
                        insert(item);
                        break;
                        case 2:item=removeData();
                        if(item==-1)
                        printf("Queue is empty\n");
                        else
                        printf("item deleted=%d\n",item);
```

```
                break;
                case 3:display();
                break;
                default:exit (0);

            }
        }
    }
```

SCREENSHOTS:

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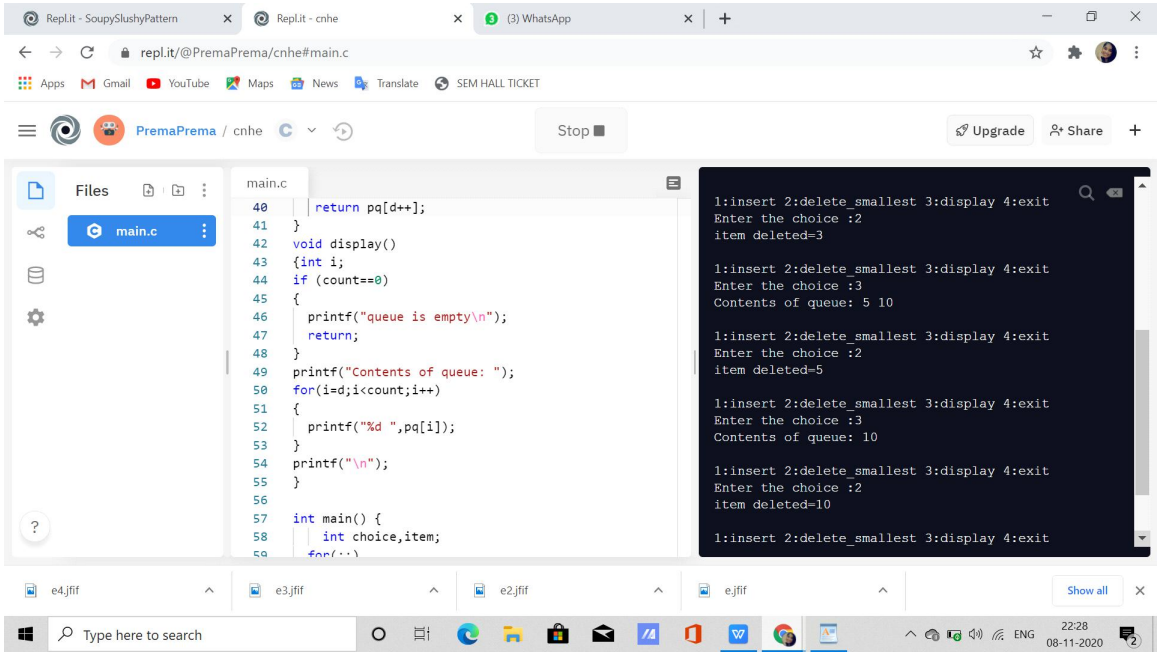
Files
main.c
// start from the right end of the queue
for(i = count - 1; i >= 0; i--){
//if data is smaller shift right
if(data<pq[i]){
pq[i+1] = pq[i];
}else{
break;
}
}
// insert the data
pq[i+1] = data;
count++;
}
}
int removeData(){
Enter the choice :3
Contents of queue: 3 5 10
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :2
item deleted=3
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :3
Contents of queue: 5 10
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :2
item deleted=5
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :3
Contents of queue: 10
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :2
item deleted=10
e4.jfif
e3.jfif
e2.jfif
e.jfif
Show all
Type here to search
ENG
22:28
08-11-2020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main.c
return pq[d++];
}
void display()
{int i;
if (count==0)
{
printf("queue is empty\n");
return;
}
printf("Contents of queue: ");
for(i=d;i<count;i++)
{
printf("%d ",pq[i]);
}
printf("\n");
}
int main() {
int choice,item;
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :2
item deleted=3
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :3
Contents of queue: 5 10
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :2
item deleted=5
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :3
Contents of queue: 10
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :2
item deleted=10
1:insert 2:delete_smallest 3:display 4:exit
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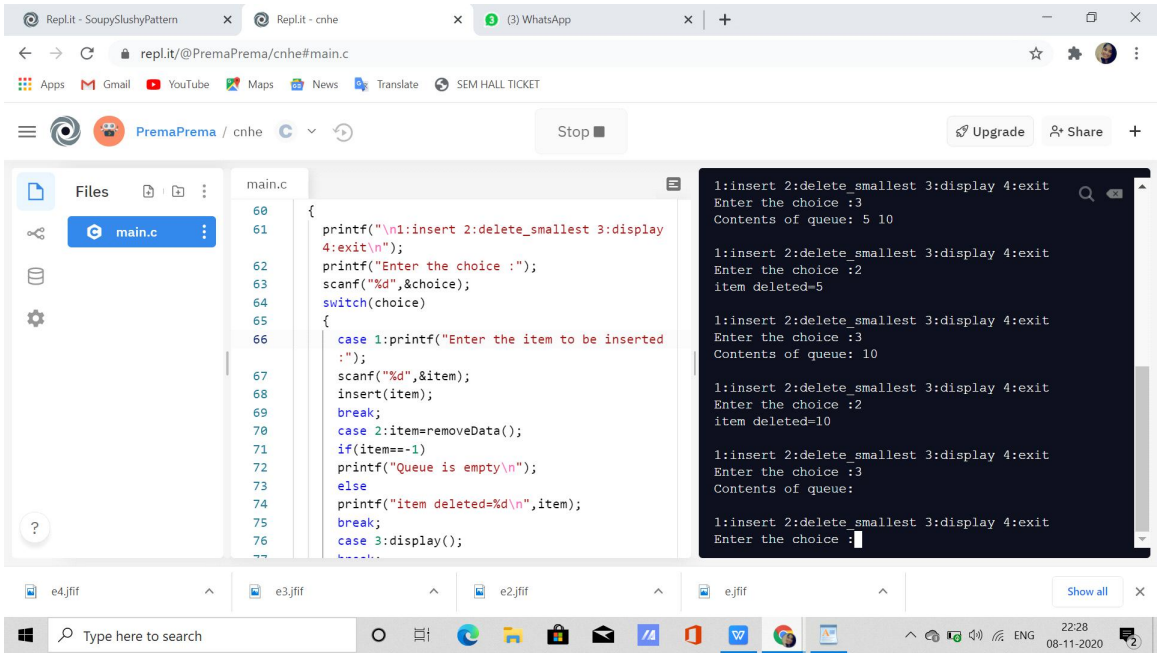
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main.c
60 {
61 printf("\n1:insert 2:delete_smallest 3:display 4:exit\n");
62 printf("Enter the choice :");
63 scanf("%d",&choice);
64 switch(choice)
65 {
66 case 1:printf("Enter the item to be inserted :");
67 scanf("%d",&item);
68 insert(item);
69 break;
70 case 2:item=removeData();
71 if(item==-1)
72 printf("Queue is empty\n");
73 else
74 printf("item deleted=%d\n",item);
75 break;
76 case 3:display();
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :3
Contents of queue: 5 10
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :2
item deleted=5
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :3
Contents of queue: 10
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :2
item deleted=10
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Contents of queue:
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Enter the choice :
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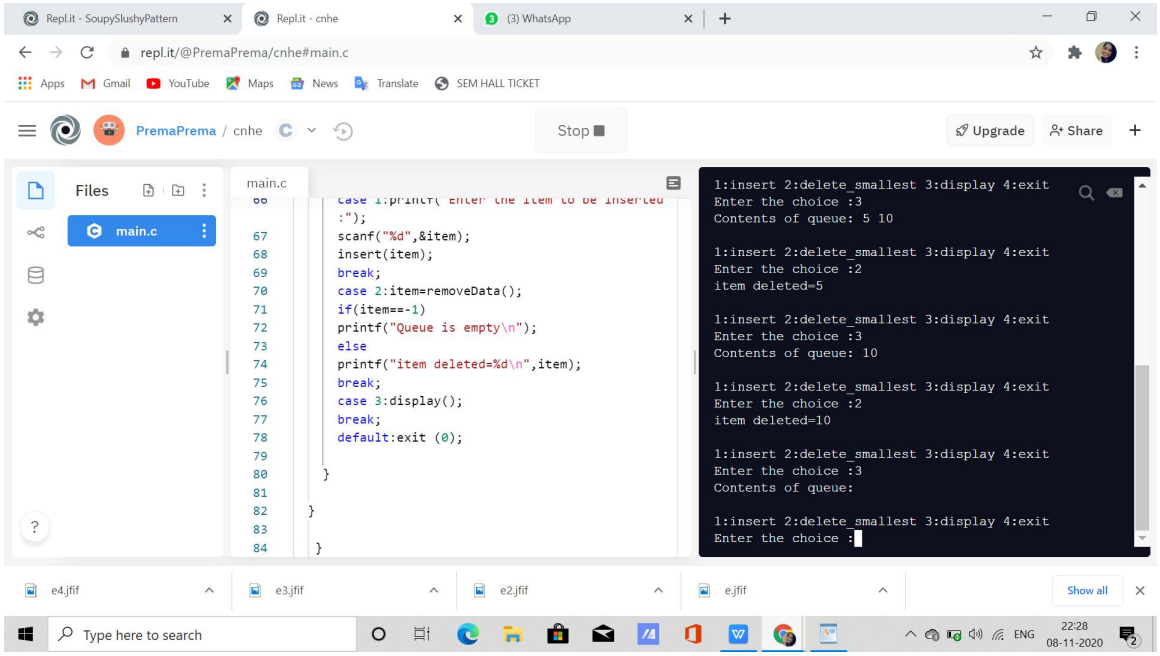
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Share
Files
main.c
:");
67 scanf("%d",&item);
68 insert(item);
69 break;
70 case 2:item=removeData();
71 if(item==-1)
72 printf("Queue is empty\n");
73 else
74 printf("item deleted=%d\n",item);
75 break;
76 case 3:display();
77 break;
78 default:exit (0);
79
80 }
81
82 }
83
84 }
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :3
Contents of queue: 5 10
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :2
item deleted=5
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :3
Contents of queue: 10
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :2
item deleted=10
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :3
Contents of queue:
1:insert 2:delete_smallest 3:display 4:exit
Enter the choice :
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WRITTERN:

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→ Priority queue.
(ascending and descending).

```
#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\n");
  return;
}
if(count==0){
  pq[count++]=data;
 }
else {
for(i=count-1; i>=0;i--){
 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\n");
return;
}
pf(" contents of queue: ");
for(i=d;i<count;i++)
{
pf("%d",pq[i]);
}
pf("\n");
}
```

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```
int main()
{
 int choice, item;
 for (;;)
{
 printf ("\n1.insert \n2 : delete-smallest \n3: display
 \n4 exit \n");
  pf ("enter the choice:");
 sf ("%d", &choice);
 switch(choice)
 {
case 1: printf (" enter the item to be inserted: ");
 sf ("%d", &item);
insert(item);
break;
case 2: item= removeData();
if (item==-1)
pf ("Queue is empty\n");
 else
pf ("item deleted = %d\n", item);
 break;
case 3: display();
  break;
default: exit (0);
 }
}
```