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// Priority queue
#include<stdio.h>
#include<conio.h>
#define N 3
int queue[3][N];
int front[3]={0,0,0};
int rear[3]={-1,-1,-1};
int item,pr;
void main()
{
int ch;
while(1)
{
printf("PRIORITY QUEUE\n");
printf("1:PQinsert\n");
printf("2:PQdelete\n");
printf("3:PQdisplay\n");
printf("4:Exit\n");
printf("enter the choice\n");
scanf("%d",&ch);
switch(ch)
{
case 1:printf("enter the priority number\n");
scanf("%d",&pr);
if(pr>0 && pr<4)
pqinsert(pr-1);
else
printf("only 3 priority exists 1 2 3\n");
break;
case 2:pqdelete();
break;

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case 3:display();
        break;
default:exit(0);
}
}
getch();
}
pqinsert(int pr)
{
    if(rear[pr]==N-1)
        printf("Queue overflow\n");
    else
    {
        printf("enter the item\n");
        scanf("%d",&item);
        rear[pr]++;
        queue[pr][rear[pr]]=item;
    }
    return;
}
pqdelete()
{
    int i;
    for(i=0;i<3;i++)
    {
        if(rear[i]==front[i]-1)
            printf("queue empty\n");
        else
        {
            printf("deleted item is %d of queue %d\n",queue[i][front[i]],i+1);
            front[i]++;
        }
    }
}

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return;
}
}
}
display()
{
int i,j;
for(i=0;i<3;i++)
{
if(rear[i]==front[i]-1)
printf("queue empty %d\n",i+1);
else
{
printf("QUEUE %d:",i+1);
for(j=front[i];j<=rear[i];j++)
printf("%d\t",queue[i][j]);
}
}
return;
}

```

```

input
PRIORITY QUEUE
1:PQinsert
2:PQdelete
3:PQdisplay
4:Exit
enter the choice
1
enter the priority number
2
enter the item
10
PRIORITY QUEUE
1:PQinsert
2:PQdelete
3:PQdisplay
4:Exit
enter the choice
1
enter the priority number
1
enter the item
20
PRIORITY QUEUE

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4:Exit
enter the choice
1
enter the priority number
1
enter the item
20
PRIORITY QUEUE
1:PQinsert
2:PQdelete
3:PQdisplay
4:Exit
enter the choice
1
enter the priority number
3
enter the item
30
PRIORITY QUEUE
1:PQinsert
2:PQdelete
3:PQdisplay
4:Exit
```

```
input
3:PQdisplay
4:Exit
enter the choice
3
QUEUE 1:20    QUEUE 2:10    QUEUE 3:30    PRIORITY QUEUE
1:PQinsert
2:PQdelete
3:PQdisplay
4:Exit
enter the choice
2
deleted item is 20 of queue 1
PRIORITY QUEUE
1:PQinsert
2:PQdelete
3:PQdisplay
4:Exit
enter the choice
4
...Program finished with exit code 0
Press ENTER to exit console.
```