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#include<stdio.h>
#include<conio.h>
#include<process.h>
#include<stdlib.h>
#define N 3
int queue[3][N],
int front[3]={0,0,0},
int rear[3]={-1,-1,-1},
int itempr,
int pqinsert(int),
int pqdelete(),
int display(),
int main()
{
int ch,
system("cls");
while(1)
{
printf("PRIORITY QUEUE\n");
printf("*****\n");
printf("\n1: PQinsert\n");
printf("\n2: PQdelete\n");
printf("\n3: PQdisplay\n");
printf("\n4: Exit\n");
printf("\nEnter the choice\n");
scanf("%d",&ch);
switch(ch)
{
case 1: printf("\nEnter the priority number\n");
scanf("%d",&pr);
if(pr>0 && pr<4)
pqinsert(pr-1);
else
printf("\n only 3 priority exists 1 2 3\n");
break;
case 2: pqdelete();
break;

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6 case 2 pqdelete().
7     break;
8 case 3 display().
9     break;
0 case 4 exit(0).
1 }
2 }
3 getch();
4 return 0;
5 }
6 pqinsert(int pr)
7 {
8     if(rear[pr]==N-1)
9         printf("\n Queue overflow\n");
0     else
1     {
2         printf("\n enter the item\n");
3         scanf("%d",&item);
4         rear[pr]++;
5         queue[pr][rear[pr]]=item;
6     }
7     return 0;
8 }
9 pqdelete()
0 {
1     int i;
2     for(i=0; i<3; i++)
3     {
4         if(rear[i]==front[i]-1)
5             printf("\n queue empty\n");
6         else
7         {
8             printf("deleted item is %d of queue %d\n",queue[i][front[i]],i+1);
9             front[i]++;
0             return 0;
1         }
2     }

```

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53 scanf ("%d", &item);
54 rear[pr]++;
55 queue[pr][rear[pr]] = item;
56 }
57 return 0;
58 }
59 pqdelete()
60 {
61     int i;
62     for(i=0; i<3; i++)
63     {
64         if(rear[i]==front[i]-1)
65             printf("\n queue empty\n");
66         else
67         {
68             printf("deleted item is %d of queue %d\n", queue[i][front[i]], i+1);
69             front[i]++;
70             return 0;
71         }
72     }
73 }
74 display()
75 {
76     int i, j;
77     for(i=0; i<3; i++)
78     {
79         if(rear[i]==front[i]-1)
80             printf("\n queue empty %d\n", i+1);
81         else
82         {
83             printf("\nQUEUE %d ", i+1);
84             for(j=front[i]; j<=rear[i]; j++)
85                 printf("%d\t", queue[i][j]);
86         }
87     }
88     return 0;
89 }

```

```
PRIORITY QUEUE
*****

1:PQinsert
2:PQdelete
3:PQdisplay
4:Exit

enter the choice
1

enter the priority number
22

only 3 priority exists 1 2 3
```

```
PRIORITY QUEUE
*****

1:PQinsert
2:PQdelete
3:PQdisplay
4:Exit
```

```
enter the choice
2
```

```
queue empty
```

```
queue empty
```

```
queue empty
```

```
PRIORITY QUEUE
*****
```

```
1:PQinsert
2:PQdelete
3:PQdisplay
4:Exit
```

```
enter the choice
```

enter the choice
1
enter the priority number
2

enter the item
45
PRIORITY QUEUE

- 1:PQinsert
- 2:PQdelete
- 3:PQdisplay
- 4:Exit

enter the choice
1
enter the priority number
3

enter the item
65
PRIORITY QUEUE

- 1:PQinsert
- 2:PQdelete
- 3:PQdisplay
- 4:Exit

enter the choice
2
queue empty
deleted item is 45 of queue 2
PRIORITY QUEUE

- 1:PQinsert

4:Exit

enter the choice

2

queue empty

deleted item is 45 of queue 2

PRIORITY QUEUE

1:PQinsert

2:PQdelete

3:PQdisplay

4:Exit

enter the choice

3

queue empty 1

queue empty 2

QUEUE 3:65 PRIORITY QUEUE

1:PQinsert

2:PQdelete

3:PQdisplay

4:Exit

enter the choice

4

Process exited after 37.11 seconds with return value 0

Press any key to continue . . .