```c
//pririotry queue
 #include<stdio.h>
#include<stdlib.h>
#define N 3
int queue[3][N];
int front[3]={0,0,0};
int rear[3]={-1,-1,-1};
void pqinsert(int pr);
void pqdelete();
void display();
int item,pr;
void main()
{
int ch;
while(1)
{
printf("PRIORITY QUEUE\n");
printf("***\n");
printf("\n\t1:PQinsert\n");
printf("\n\t2:PQdelete\n");
printf("\n\t3:PQdisplay\n");
printf("\n\t4: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 3 priority exists 1 2 3\n");
        break;
case 2: pqdelete();
       break;
case 3: display();
       break;
case 4:exit(0);
}
}
}
 void pqinsert(int pr)
{
  if(rear[pr]==N-1)
```

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```
{
 if(rear[pr]==N-1)
 printf("\n Queue overflow\n");
 else
 {
 printf("\nenter the item\n");
 scanf("%d",&item);
 rear[pr]++;
 queue[pr][rear[pr]]=item;
 }
 return;
}
void pqdelete()
{
int i;
for(i=0;i<3;i++)
{
  if(rear[i]==front[i]-1)
  printf("\nqueue empty\n");
  else
  {
  printf("deleted item is %d of queue %d\n",queue[i][front[i]],i+1);
  front[i]++;
  return;
  }
 }
}
void display()
{
 int i,j;
 for(i=0;i<3;i++)
{
 if(rear[i]==front[i]-1)
   printf("\nqueue empty %d\n",i+1);
 else
  {
   printf("\nQUEUE %d:",i+1);
   for(j=front[i];j<=rear[i];j++)
     printf("%d\t",queue[i][j]);
  }
}
 return;
 }
```

```
PRIORITY QUEUE
***

        1:PQinsert

        2:PQdelete

        3:PQdisplay

        4:Exit

enter the choice
1

enter the priority number
1

enter the item
10
PRIORITY QUEUE
***

        1:PQinsert

        2:PQdelete

        3:PQdisplay

        4:Exit

enter the choice
2
deleted item is 10 of queue 1
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
1

enter the priority number
1

enter the item
10
PRIORITY QUEUE
***

        1:PQinsert

        2:PQdelete

        3:PQdisplay

        4:Exit

enter the choice
1

enter the priority number
2

enter the item
20
PRIORITY QUEUE
***

        1:PQinsert

        2:PQdelete

        3:PQdisplay

        4:Exit
```

```
enter the choice
1

enter the priority number
2

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

enter the choice
3

QUEUE 1:10
QUEUE 2:20
QUEUE 3:30      PRIORITY QUEUE
***

        1:PQinsert

        2:PQdelete
```

```
***

        1:PQinsert

        2:PQdelete

        3:PQdisplay

        4:Exit

enter the choice
1

enter the priority number
1

enter the item
40
PRIORITY QUEUE
***

        1:PQinsert

        2:PQdelete

        3:PQdisplay

        4:Exit

enter the choice
1

enter the priority number
1

 Queue overflow
PRIORITY QUEUE
***

        1:PQinsert

        2:PQdelete

        3:PQdisplay

        4:Exit

enter the choice
50
PRIORITY QUEUE
```

```
50
PRIORITY QUEUE
***

        1:PQinsert

        2:PQdelete

        3:PQdisplay

        4:Exit

enter the choice
1

enter the priority number
3

enter the item
50
PRIORITY QUEUE
***

        1:PQinsert

        2:PQdelete

        3:PQdisplay

        4:Exit

enter the choice
1

enter the priority number
2

enter the item
60
PRIORITY QUEUE
***

        1:PQinsert

        2:PQdelete

        3:PQdisplay

        4:Exit
```

```
enter the priority number
2

enter the item
60
PRIORITY QUEUE
***

        1:PQinsert

        2:PQdelete

        3:PQdisplay

        4:Exit

enter the choice
3

QUEUE 1:10      40
QUEUE 2:20      60
QUEUE 3:30      50      PRIORITY QUEUE
***

        1:PQinsert

        2:PQdelete

        3:PQdisplay

        4:Exit

enter the choice
1

enter the priority number
2

enter the item
```