LAB-5;    priority Queue:

```c
#include <stdio.h>
#include <conio.h>
#define N3

int queue [3][N];
int front [3] = {0,0,0};
int rear [3] = {-1,-1,-1};
int temp, pr;

void main()
{
    int ch;
    while (1)
    {
        printf (" Priority Queue\n");
        printf (" \n\t1: PQinset\n
                  \n\t2: PQdelete\n
                  \n\t3: PQdisplay\n
                  \n\t4: Exit\n");
        Scant ("%d", &ch);
        Switch (ch)
        {
            Case1: printf ("\n Enter the priority num\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;

Case 3 : display ();
            break;
Case 4 : exit (0);
    }
  }
}
    pqinsert (int pr)
  {
    if (rear [pr]==N-1)
    printf ("\n Queue Overflow \n");
    else
      { printf ("\n 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]++;
        return;
        }
      }
    }
}
```

```c
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 (" \n Queue %d:", i+1);
            for (j= front[i]; j <= rear[i]; j++)
                printf ("%d\t", queue[i][j]);
        }
    }

    return;
}
```