Week-6

Priority queue

```
#include <stdio.h>
#define N 3
  int queue [3][N]
int front [3] = {0, 0, 0};
int rear [] = {-1, -1, -1};
 int item, ps;
 void main()
{
   int ch;
    while (1)
    {
       printf ("\n Priority queue \n");
       printf (" ..... \n");
       Printf ("1 \n \t 1: PQinsert \n");
       Printf (" \n \t 2: PQdelete \n");
       printf (" \n \t 3. PQdisplay \n");
       printf (" \n \t 4. Exit \n");
         printf ("\n Enter the Choice \n");
          scanf ("%d", &ch);
          switch (ch)
          {
             case 1: printf ("\n Enter priority number \n");
                     scanf ("%d", &ps);
                     if (ps > 0 && ps < 4)
                       pqinsert (ps-1);
                     else
                     printf ("\n only 3 priority exist 123 \n");
                     break;
```

```
        case 2: pqdelete();
                break;
        case 3: display();
                break;
        case 4: exit(0);
    }
  }
}
pqinsert(int ps)
{
    if (reas[ps] = N-1)
    printf("\n Queue overflow \n");
    else
    {
        printf("\n Enter item \n");
        scanf("%d", &item);
        reas[ps]++;
        queue[ps][reas[ps]] = item;
    }
    return;
}
pqdelete()
{
  int i;
  for(i=0; i<3; i++)
  {
      if (reas[i] == front[i]-1)
        printf("\n queue Empty \n");
        else
      {
        printf("deleted item is %d of queue %d \n", queue[i][front[i]], i+1);
```

```
        front[i]++;
        return;
      }
    }
}
display()
{
  int i,j;
  for(i=0; i<3; i++)
    {
      if(rear[i]== front[i]-1)
        printf("\n 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;
}
```

output

```
PRIORITY QUEUE
1. PQinsert
2. PQdelete
3. PQdisplay
4. Exit
Enter choice
1
Enter the priority number
2
Enter item
20
.
.
.
```