Lab-6

Priority Queue

```
#include <stdio.h>
#include <stdlib.h>
#include <limits.h>
#define quesize 10
int item, p, rear = -1, q[quesize][2];
void insertrear() {
if (rear < quesize) {
q[++rear][0] = item;
q[rear][1] = p;
}
else
printf("Queue overflow\n");
}
void remove_small() {
int min = INT_MAX;
int t;
for (int i = 0; i <= rear; i++) {
if (q[i][1] < min) {
min = q[i][1];
t = i;
}
}
if (min != INT_MAX) {
printf("Element removed: %d with priority
number: %d\n", q[t][0], min);
q[t][1] = INT_MAX;
}
else
printf("Queue Underflow\n");
```

```
}
void display () {
printf ("Elements of queue : \nele \tprior \n");
  for (int i = 0; i <= rear; i++) {
   if (q[i][1] != INT_MAX)
   printf ("%d \t %d \n", q[i][0], q[i][1]);
  }
}
int main () {
 int choice;
 for (;;) {
 printf ("Enter : \n1. Insert Element \n2. Delete
   Highest Prior \n3. Display \n4. Exit \n");
     Scanf ("%d", &choice) {
 case 1 : printf ("Enter element & priority : \n");
  Scanf ("%d %d", &item, &p);
  insertear ();
  break;
  case 2 : remove_small ();
  break
  case 3 : display ();
  break;
  case 4 : exit (0);
  default : printf ("Wrong choice \n");
  }
 }
 return 0;
}
```