

```

1: // Interval Scheduling
2:
3: #include<stdio.h>
4: #include<stdlib.h>
5: static int k=0;
6: struct data* dt=NULL;
7: struct is{
8:     int start;
9:     int finish;
10: };
11:
12: struct data{
13:     int v;
14:     struct is* array;
15: };
16:
17: struct data* create_data(int v){
18:
19:     struct data* temp=(struct data*)malloc(sizeof(struct data));
20:     temp->v=v;
21:     temp->array=(struct is*)malloc(v*sizeof(struct is));
22:     return temp;
23: }
24:
25: void add_data(int start,int finish){
26:     dt->array[k].start=start;
27:     dt->array[k++].finish=finish;
28: }
29: void swap(int* a, int* b)
30: {
31:     int t = *a;
32:     *a = *b;
33:     *b = t;
34: }
35:
36: int partition ( int low, int high)
37: {
38:     int pivot = dt->array[high].finish;
39:     int i = (low - 1);
40:
41:     for (int j = low; j <= high- 1; j++)
42:     {
43:         if (dt->array[j].finish <= pivot)
44:         {
45:             i++;
46:             swap(&dt->array[i].finish,&dt->array[j].finish);
47:             swap(&dt->array[i].start,&dt->array[j].start);
48:         }
49:     }
50:     swap(&dt->array[i+1].finish, &dt->array[high].finish);
51:     swap(&dt->array[i+1].start,&dt->array[high].start);
52:
53:     return (i + 1);
54: }

```

```

55:
56: void quickSort(struct is* arr,int low, int high)
57: {
58:     if (low < high)
59:     {
60:         int pi = partition( low, high);
61:         quickSort(arr, low, pi - 1);
62:         quickSort(arr, pi + 1, high);
63:     }
64: }
65:
66: void interval_scheduling(){
67:
68:     quickSort(dt->array,0,dt->v);
69:     int i=0;
70:     printf("%d--%d",dt->array[i].start,dt->array[i].finish);
71:     for(int j=1;j<dt->v;++j){
72:         if(dt->array[j].start>=dt->array[i].finish)
73:         { printf("\n%d--%d",dt->array[j].start,dt->array[j].finish);
74:           i=j;
75:         }
76:     }
77:
78: }
79:
80:
81:
82: int main(){
83:     dt=create_data(6);
84:     add_data(5,9);
85:     add_data(1,2);
86:     add_data(3,4);
87:     add_data(0,6);
88:     add_data(5,7);
89:     add_data(8,9);
90:     interval_scheduling();
91:     return 0;
92:
93: }
94:
95:
96:

```