

```

#include<stdio.h>

struct process{
    int no;
    int at;
    int bt;
    int ct;
    int tt;
    int wt;
    int st;
    int prio;
}p[20];

void sort(struct process pro[],int n){
    for(int i=1;i<n;i++){
        for(int j=0;j<n-i;j++){
            if(pro[j].at>pro[j+1].at){
                struct process temp = pro[j];
                pro[j]=pro[j+1];
                pro[j+1]=temp;
            }
        }
    }
}

void next(struct process pro[],int n,int i){
    int curr_at=pro[i-1].ct;
    int lowPrio=99;
    for(int j=i;j<n;j++){
        if(p[j].at<curr_at){
            if(p[j].prio<lowPrio){
                lowPrio=p[j].prio;
            }
        }
    }
    for(int j=i;j<n;j++){
        if(p[j].prio==lowPrio){
            struct process temp = pro[j];
            pro[j]=pro[i];
            pro[i]=temp;
        }
    }
}

int main(){
    int n;
    float wt_avg=0,tt_avg=0;
    printf("Enter the no of process:");
    scanf("%d",&n);
    printf("Enter the Arrival time, burst time and priority of each process\n");
    for(int i=0;i<n;i++){
        p[i].no=i+1;
        printf("p%d:",p[i].no);
        scanf("%d",&p[i].at);
        scanf("%d",&p[i].bt);
        scanf("%d",&p[i].prio);
    }
    sort(p,n);
}

```

```

        for(int i=0;i<n;i++){
            if(i==0){
                p[i].ct=p[i].at+p[i].bt;
                p[i].st=p[i].at;
            }else{
                next(p,n,i);
                p[i].ct=p[i-1].ct+p[i].bt;
                p[i].st=p[i-1].ct;
            }
            p[i].tt=p[i].ct-p[i].at;
            p[i].wt=p[i].tt-p[i].bt;
            tt_avg+=p[i].tt;
            wt_avg+=p[i].wt;
        }
        wt_avg=wt_avg/n;
        tt_avg=tt_avg/n;
        printf("Process\t\tArrival Time\tBurst Time\tpriority\tCompletion
Time\tTurnAround Time\n");
        for(int i=0;i<n;i++){

printf("p%d\t\t%d\t\t%d\t\t%d\t\t%d\t\t%d\n",p[i].no,p[i].at,p[i].bt,p[i].prio,p[i].ct,p[i].tt);
        }
        printf("Average waiting time: %.2f\n",wt_avg);
        printf("Average Turnaround time: %.2f\n\n",tt_avg);
        printf("Gantt Chart\n");

printf("-----\n");
        printf("|");
        for(int i=0;i<n;i++){
            printf("|tp%d\t|",p[i].no);
        }
        printf("| \n");

printf("-----\n");
        for(int i=0;i<n;i++){
            if(i==0 || p[i].at>p[i-1].ct){
                printf("%d\t\t",p[i].st);
                printf("%d ",p[i].ct);
            }else{
                printf("\t\t%d",p[i].ct);
            }
        }

printf("\n-----\n");
}

```