

priority scheduling (non-preemptive)

```
void sort
```

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
void swap(int *a, int *b) {
```

```
    *a = *a + *b;
```

```
    *b = *a - *b;
```

```
    *a = *a - *b;
```

```
}
```

```
void sort(int *pid, int *at, int *bt, int *prior,
          int n) {
```

```
    for (int i = 0; i < n; i++) {
```

```
        for (int j = 0; j < n; j++) {
```

```
            if (at[i] < at[j]) {
```

```
                swap(&at[i], &at[j]);
```

```
                swap(&bt[i], &bt[j]);
```

```
                swap(&pid[i], &pid[j]);
```

```
                swap(&prior[i], &prior[j]);
```

```
            }
```

```
        }
```

```
    }
```

```
}
```

```
int highest_priority(int *prior, int s, int e) {
```

```
    int x = prior[s];
```

```
    int j = s;
```

```
    for (int i = s; i < e; i++) {
```

```
        if (prior[i] > x) {
```

```
            x = prior[i];
```

```
            j = i;
```

```
}
```



```

    return j;
}

int main() {
    int n, t, x;
    printf("Enter the number of processes: ");
    scanf("%d", &n);
    int pid[n], at[n], bt[n], ct[n], tar[n], wt[n],
        bt2[n], rt[n], prior[n];
    for (int i = 0; i < n; i++) {
        printf("Enter arrival time & burst time & priority: ");
        scanf("%d %d %d", &at[i], &bt[i], &prior[i]);
        pid[i] = i + 1;
    }
    sort(pid, at, bt, prior, n);
    for (int i = 0; i < n; i++) {
        bt2[i] = bt[i];
        rt[i] = -1;
    }
    int arvc = 0;
    int count = 0;
    int ctvar = at[0];
    int curi = 0;
    while (count != n) {
        if (rt[curi] == -1) {
            rt[curi] = ctvar - arvc;
        }
        if (arvc == n) {
            ctvar = bt2[curi];
            bt2[curi] = 0;
        }
        else {
            ctvar++;
        }
    }
}

```



```

    b2[curi] += 1;
}
for (int i = 0; at[i] <= ctvar; i++) {
    arvct = 1;
    x = i;
}
if (b2[curi] == 0) {
    count += 1;
    ct[curi] = ctvar;
    prior[curi] = -1;
}
curi = highest_priority(prior, 0, x + 1);
}
for (int i = 0; i < n; i++) {
    tat[i] = ct[i] - at[i];
    wt[i] = tat[i] - b2[i];
}
float avg_tat = 0;
float avg_wt = 0;
for (int i = 0; i < n; i++) {
    avg_tat += tat[i];
    avg_wt += wt[i];
}
printf("pid\tat\tbt\nc\ttat\twt\trt\n");
for (int i = 0; i < n; i++) {
    printf("%d\t%d\t%d\t%d\t%d\t%d\t",
        pid[i], at[i], bt[i], ct[i], tat[i], wt[i]);
    printf("\n");
}
printf("\n Average TAT: %.f", avg_tat/n);
printf("\n Average WT: %.f", avg_wt/n);
return 0;
}

```