

**MPS :**

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

```
struct process {  
    int at, st, ft, status, cpu;  
} ready_list[10];
```

```
int n, h;
```

```
int dispatcher(int time) {  
    for (int i = 0; i < n; i++) {  
        if (ready_list[i].status == 0 && ready_list[i].at <= time) {  
            return i;  
        }  
    }  
    return -1;  
}
```

```
int main() {  
    printf("Enter number of processes and CPUs: ");  
    scanf("%d %d", &n, &h);  
  
    for (int i = 0; i < n; i++) {  
        printf("Process %d: Enter Arrival Time and Service Time: ", i + 1);  
        scanf("%d %d", &ready_list[i].at, &ready_list[i].st);  
        ready_list[i].status = 0;  
    }
```

```
    int cur_time[10] = {0}; // Initialize current times for each CPU  
    int completed = 0;
```

```
    while (completed < n) {  
        for (int j = 0; j < h && completed < n; j++) {  
            int pid = dispatcher(cur_time[j]);  
            if (pid != -1) {  
                ready_list[pid].ft = cur_time[j] + ready_list[pid].st;  
                ready_list[pid].cpu = j + 1;  
                ready_list[pid].status = 1;  
                cur_time[j] += ready_list[pid].st;  
                completed++;  
            }  
        }  
    }
```

```
    printf("Process\tAT\tST\tFT\tCPU\tTT\tWT\n");  
    for (int i = 0; i < n; i++) {  
        int tt = ready_list[i].ft - ready_list[i].at;  
        int wt = tt - ready_list[i].st;
```

```
        printf("%d\t%d\t%d\t%d\t%d\t%d\t%d\n", i + 1, ready_list[i].at, ready_list[i].st,  
ready_list[i].ft, ready_list[i].cpu, tt, wt);  
    }  
  
    return 0;  
}
```