```c
#include <stdio.h>
void line(int n)
{
        for (int i = 0; i < n; i++)
                printf("=");
        printf("\n");
}

int abs(int a)
{
    if(a < 0)
        return -a;
    return a;
}

int main()
{
        int p;
        printf("Enter number of processes : ");
        scanf("%d", &p);
        p = abs(p);

        int at[p], bt[p], pri[p];

        int total_time = 0;
        printf("Enter arrival and Burst time and Priority\n");
        for (int i = 0; i < p; i++)
        {
                printf("Process %d : ", i + 1);
                scanf("%d", &at[i]);
                scanf("%d", &bt[i]);
                scanf("%d", &pri[i]);

                at[i] = abs(at[i]);
                bt[i] = abs(bt[i]);
                pri[i] = abs(pri[i]);

                total_time += bt[i];
        }
    printf("\n");

        int clock = 0;
        int gantt[total_time];
    int exe = -1;

    while(clock < total_time)
    {
        if(exe == -1)
        {
            for(int i=0;i<p;i++)
            {
                if(at[i] <= clock && bt[i] > 0)
                {
                    if(exe == -1)
                    {
                        exe = i;
                    }
                    else
                    {
                        if(pri[i] < pri[exe])
                        {
                            exe = i;
                        }
                    }
                }
            }
        }

        bt[exe]--;
        gantt[clock] = exe;
        clock++;

        if(bt[exe] == 0)
            exe = -1;
    }

    line(total_time * 2);
    for(int i=0;i<total_time;i++)
    {
        printf("%d ", gantt[i] +1);
    }
```

```
    printf("\n");
    line(total_time * 2);

        int ct[p], tat[p], wt[p], t_bt[p];

        for (int i = 0; i < p; i++)
        {
                int tbt = 0;
                int tstart = -1;
                int last = -1;
                for (int j = 0; j < total_time; j++)
                {
                        if (gantt[j] == i)
                        {
                                tbt++;
                                last = j;
                                if (tstart == -1)
                                        tstart = j;
                        }
                }

        t_bt[i] = tbt;
                ct[i] = last + 1;
                tat[i] = ct[i] - at[i];
                wt[i] = tat[i] - t_bt[i];
        }

        line(77);
        printf("%10s|%10s|%10s|%10s|%10s|%10s|%10s|\n", "Process No", "A. T.", "B. T.", "Priority", "C. T.", "T. A.
T.", "W. T.");
        for (int i = 0; i < p; i++)
        {
                printf("%10d|%10d|%10d|%10d|%10d|%10d|%10d|\n", i+1, at[i], t_bt[i], pri[i], ct[i], tat[i], wt[i]);
        }
        line(77);

        double avg_tat = 0, avg_wt = 0;
        for (int i = 0; i < p; i++)
        {
                avg_tat += tat[i];
                avg_wt += wt[i];
        }

        avg_tat = avg_tat / p;
        avg_wt = avg_wt / p;

        printf("Average Turn Around Time : %f\n", avg_tat);
        printf("Average Waiting Time : %f\n", avg_wt);

        return 0;
}

// 5 8 2 3 3 8 5 0 15 4 16 4 1 10 11 2
// 5 5 4 5 0 9 4 15 7 2 12 12 1 8 6 3

/*OUTPUT -
Enter number of processes : 5
Enter arrival and Burst time and Priority
Process 1 : 8 2 3
Process 2 : 3 8 5
Process 3 : 0 15 4
Process 4 : 16 4 1
Process 5 : 10 11 2

================================================================================
3 3 3 3 3 3 3 3 3 3 3 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5 4 4 4 4 1 1 2 2 2 2 2 2 2 2
================================================================================
================================================================================
Process No|     A. T.|     B. T.|  Priority|     C. T.|  T. A. T.|     W. T.|
         1|         8|         2|         3|        32|        24|        22|
         2|         3|         8|         5|        40|        37|        29|
         3|         0|        15|         4|        15|        15|         0|
         4|        16|         4|         1|        30|        14|        10|
         5|        10|        11|         2|        26|        16|         5|
================================================================================
Average Turn Around Time : 21.200000
Average Waiting Time : 13.200000

Enter number of processes : 5
Enter arrival and Burst time and Priority
Process 1 : 5 4 5
Process 2 : 0 9 4
```

```
Process 3 : 15 7 2
Process 4 : 12 12 1
Process 5 : 8 6 3

================================================================================
2 2 2 2 2 2 2 2 5 5 5 5 5 5 4 4 4 4 4 4 4 4 4 4 4 4 4 3 3 3 3 3 3 3 1 1 1 1
================================================================================
================================================================================
Process No|     A. T.|     B. T.|  Priority|     C. T.|  T. A. T.|     W. T.|
         1|         5|         4|         5|        38|        33|        29|
         2|         0|         9|         4|         9|         9|         0|
         3|        15|         7|         2|        34|        19|        12|
         4|        12|        12|         1|        27|        15|         3|
         5|         8|         6|         3|        15|         7|         1|
================================================================================
Average Turn Around Time : 16.600000
Average Waiting Time : 9.000000
*/
```