```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];

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

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

                total_time += bt[i];
        }

        int clock = 0;
        int queue[total_time];

        int exe = -1;

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

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

        int ct[p], tat[p], wt[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 (queue[j] == i)
                        {
                                tbt++;
                                last = j;
```

```
                                if (tstart == -1)
                                        tstart = j;
                        }
                }

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

        line(55);
        printf("%10s|%10s|%10s|%10s|%10s|\n", "Process No", "A. T.","C. T.","T. A. T.","W. T.");
        for (int i = 0; i < p; i++)
        {
                printf("%10d|%10d|%10d|%10d|%10d|\n", i+1, at[i], ct[i], tat[i], wt[i]);
        }
        line(55);

        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 8 0 15 16 4 10 11
//4 0 7 2 4 4 1 5 4

/*OUTPUT -
Enter number of processes : 4
Enter arrival and Burst time
Process 1 : 0 7
Process 2 : 2 4
Process 3 : 4 1
Process 4 : 5 4
================================
1 1 2 2 3 2 2 4 4 4 4 1 1 1 1 1
================================
=====================================================
Process No|     A. T.|     C. T.|  T. A. T.|     W. T.|
         1|         0|        16|        16|         9|
         2|         2|         7|         5|         1|
         3|         4|         5|         1|         0|
         4|         5|        11|         6|         2|
=====================================================
Average Turn Around Time : 7.000000
Average Waiting Time : 3.000000


Enter number of processes : 5
Enter arrival and Burst time
Process 1 : 8 2
Process 2 : 3 8
Process 3 : 0 15
Process 4 : 16 4
Process 5 : 10 11
================================================================================
3 3 3 2 2 2 2 2 1 1 2 2 2 5 5 5 4 4 4 4 4 5 5 5 5 5 5 5 5 3 3 3 3 3 3 3 3 3 3 3 3
================================================================================
=====================================================
Process No|     A. T.|     C. T.|  T. A. T.|     W. T.|
         1|         8|        10|         2|         0|
         2|         3|        13|        10|         2|
         3|         0|        40|        40|        25|
         4|        16|        20|         4|         0|
         5|        10|        28|        18|         7|
=====================================================
Average Turn Around Time : 14.800000
Average Waiting Time : 6.800000
*/

// 5 9 4 3 4 0 8 1 6 12 6
```