#include <stdio.h>

void main() {

int x, n, p[10], pp[10], pt[10], i, j, w[10], t[10];

float awt = 0, atat = 0;

printf("Enter the number of processes: ");

scanf("%d", &n);

printf("\nEnter Process Burst Time and Priority:\n");

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

printf("Process %d (Burst Time & Priority): ", i + 1);

scanf("%d %d", &pt[i], &pp[i]);

p[i] = i + 1;

}

// Sorting based on priority (Higher priority first)

for (i = 0; i < n - 1; i++) {

for (j = i + 1; j < n; j++) {

if (pp[i] < pp[j]) { // Higher priority (larger number) first

// Swap priority

x = pp[i]; pp[i] = pp[j]; pp[j] = x;

// Swap burst time

x = pt[i]; pt[i] = pt[j]; pt[j] = x;

// Swap process number

x = p[i]; p[i] = p[j]; p[j] = x;

}

}

}

// Waiting Time Calculation

w[0] = 0;

t[0] = pt[0]; // First process turnaround time = burst time

atat = t[0];

for (i = 1; i < n; i++) {

w[i] = t[i - 1]; // Waiting time = Previous Turnaround Time

awt += w[i];

t[i] = w[i] + pt[i]; // Turnaround Time = Waiting Time + Burst Time

atat += t[i];

}

// Displaying the Result

printf("\nProcess\tBurst Time\tPriority\tWait Time\tTurn Around Time\n");

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

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

printf("\t\t%d\t\t\t%d\t\t\t%d\t\t\t%d\t\t\t%d\n", p[i], pt[i], pp[i], w[i], t[i]);

}

// Average Calculations

printf("\nAverage Waiting Time: %.2f", awt / n);

printf("\nAverage Turn Around Time: %.2f\n", atat / n);

}