# Topic 5: 5. Construct a scheduling program with C that selects the waiting process with the highest priority to execute next.

#include <stdio.h>  
  
int main() {  
 int n, bt[20], p[20], pr[20], wt[20], tat[20], temp;  
 float avg\_wt = 0, avg\_tat = 0;  
 scanf("%d", &n);  
 for (int i = 0; i < n; i++) {  
 scanf("%d%d", &bt[i], &pr[i]);  
 p[i] = i;  
 }  
 for (int i = 0; i < n-1; i++) {  
 for (int j = i+1; j < n; j++) {  
 if (pr[i] < pr[j]) {  
 temp = pr[i]; pr[i] = pr[j]; pr[j] = temp;  
 temp = bt[i]; bt[i] = bt[j]; bt[j] = temp;  
 temp = p[i]; p[i] = p[j]; p[j] = temp;  
 }  
 }  
 }  
 wt[0] = 0;  
 for (int i = 1; i < n; i++) {  
 wt[i] = wt[i-1] + bt[i-1];  
 }  
 for (int i = 0; i < n; i++) {  
 tat[i] = wt[i] + bt[i];  
 avg\_wt += wt[i];  
 avg\_tat += tat[i];  
 }  
 for (int i = 0; i < n; i++) {  
 printf("P%d %d %d %d\n", p[i]+1, bt[i], wt[i], tat[i]);  
 }  
 return 0;  
}