#include<stdio.h>

int main()

{ int n,at[10], bt[10], ct[10], wt[10], tn =0, c, ta[10],tat[10];

//at-ArritvalTime::br-BurstTime::ct-CompletionTime::ta-TemporaryArray

//wt-WaitingTime::tat-TurnAroundTime::tn-CurrentTime(TimeNow)

// int i, j, k, tot, pc=0, pointer = 0, lp=-1;//lp-Last-executedProcess

int i, k, tot, pc=0, pointer = 0, lp=-1;//lp-Last-executedProcess

char pn[10][10];

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

scanf("%d",&n);

printf("Enter <ProcessName> <ArrivalTime> <BurstTime>\n");

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

scanf("%s%d%d",&pn[i],&at[i],&bt[i]);

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

{ ct[i] = -1;

ta[i] = bt[i]; }

while(pc!=n)

{ k=0;

c = 0;

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

{ if(ct[i]<0 && at[i]<=tn)

c++; }

if(c==0)

tn++;

else

{ pointer = 0;

while(at[pointer]>tn || ct[pointer]>0)

pointer++;

for(k=pointer+1; k<n; k++)

if( (at[k]<=tn && ct[k]<0) &&

( (bt[pointer]==bt[k] && k==lp) || bt[pointer]>bt[k] ) )

pointer = k;

if(ct[pointer]<0)

{ bt[pointer]--;

tn++;

if(bt[pointer]==0)

{ ct[pointer] = tn;

wt[pointer] = ct[pointer] - ( at[pointer]+ ta[pointer] );

tat[pointer] = ct[pointer] - at[pointer];

pc++; } }

lp = pointer; } }

printf("\nPN\tAT\tBT\tCT\tWT\tTAT\n");

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

printf("%s\t%d\t%d\t%d\t%d\t%d\n",pn[i],at[i],ta[i],ct[i],wt[i],tat[i]);

return 0;

}