ROUND ROBIN

#include<stdio.h>

#include<string.h>

int main(void)

{

//VARIABLE DECLARATION

char pn[20][20], c[20][20]; //PN-PROGRAM NAMES

int n,i,j,k,l, tq, at[20], bt[20], rbt[20], wt[20],tt[20],ct[20]; //bt-BURST TIME ; wt-WAITING TIME; tat-TURN AROUND TIME

int temp1, temp2, temp3, count=0,twt=0, tn;//,tat=0;

printf("Enter <Number\_of\_Processes & Time\_Quantum:\n");

scanf("%d%d", &n, &tq);

printf("Enter PN, AT, BT:\n");

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

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

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

rbt[i]=bt[i];

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

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

{ if(at[i]>at[j])

{ temp1 = bt[i];

bt[i] = bt[j];

bt[j] = temp1;

temp2 = at[i];

at[i] = at[j];

at[j] = temp2;

temp3 = rbt[i];

rbt[i] = rbt[j];

rbt[j] = temp3;

strcpy(c[i],pn[i]);

strcpy(pn[i],pn[j]);

strcpy(pn[j],c[i]);

}

} //END OF J FOR-LOOP

}//END OF I FOR-LOOP

tn = at[0];

label:

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

{

if(at[i]>tn) i--;

if(rbt[i]>0)

{

if(rbt[i]>tq)

{

tn += tq;

rbt[i] -= tq;

}

else

{

tn += rbt[i];

rbt[i] = 0;

ct[i] = tn;

count++;

}

}

}

if(count<n) goto label;

//CALCULATING WAITING TIME & TAT

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

{

wt[i] = ct[i]-at[i]-bt[i];

twt += wt[i];

}

//PRINTING THE VALUES AFTER ALL PREOCESSES COMPLETED

printf("S.N.\tPN\tAT\tBT\tCT\tWT\n");

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

printf("%d\t%s\t%d\t%d\t%d\t%d\n",(i+1),pn[i],at[i],bt[i],ct[i],wt[i]);

printf("Total waiting time:%d", twt);

}