C //Round Robin algorithm

#include<stdio.h>

int main()

{

//Input no of processed

int n,i;

printf("Enter Total Number of Processes:");

scanf("%d", &n);

int wait\_time = 0, ta\_time = 0, arr\_time[n], burst\_time[n], temp\_burst\_time[n];

int x = n;

//Input details of processes

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

{

printf("Enter Details of Process %d \n", i + 1);

printf("Arrival Time: ");

scanf("%d", &arr\_time[i]);

printf("Burst Time: ");

scanf("%d", &burst\_time[i]);

temp\_burst\_time[i] = burst\_time[i];

}

//Input time slot

int time\_slot;

printf("Enter Time Slot:");

scanf("%d", &time\_slot);

//Total indicates total time

//counter indicates which process is executed

int total = 0, counter = 0;

printf("Process ID Burst Time Turnaround Time Waiting Time\n");

for(total=0, i = 0; x!=0; )

{

// define the conditions

if(temp\_burst\_time[i] <= time\_slot && temp\_burst\_time[i] > 0)

{

total = total + temp\_burst\_time[i];

temp\_burst\_time[i] = 0;

counter=1;

}

else if(temp\_burst\_time[i] > 0)

{

temp\_burst\_time[i] = temp\_burst\_time[i] - time\_slot;

total += time\_slot;

}

if(temp\_burst\_time[i]==0 && counter==1)

{

x--; //decrement the process no.

printf("\nProcess No %d \t\t %d\t\t\t\t %d\t\t\t %d", i+1, burst\_time[i],

total-arr\_time[i], total-arr\_time[i]-burst\_time[i]);

wait\_time = wait\_time+total-arr\_time[i]-burst\_time[i];

ta\_time += total -arr\_time[i];

counter =0;

}

if(i==n-1)

{

i=0;

}

else if(arr\_time[i+1]<=total)

{

i++;

}

else

{

i=0;

}

}

float average\_wait\_time = wait\_time \* 1.0 / n;

float average\_turnaround\_time = ta\_time \* 1.0 / n;

printf("\nAverage Waiting Time:%f", average\_wait\_time);

printf("\nAvg Turnaround Time:%f", average\_turnaround\_time);

return 0;

}

//Priority scheduling algorithm

#include <stdio.h>

//Function to swap two variables

void swap(int \*a,int \*b)

{

int temp=\*a;

\*a=\*b;

\*b=temp;

}

int main()

{

int n,i,j;

printf("Enter Number of Processes: ");

scanf("%d",&n);

// b is array for burst time, p for priority and index for process id

int b[n],p[n],index[n];

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

{

printf("Enter Burst Time and Priority Value for Process %d: ",i+1);

scanf("%d %d",&b[i],&p[i]);

index[i]=i+1;

}

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

{

int a=p[i],m=i;

//Finding out highest priority element and placing it at its desired position

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

{

if(p[j] > a)

{

a=p[j];

m=j;

}

}

//Swapping processes

swap(&p[i], &p[m]);

swap(&b[i], &b[m]);

swap(&index[i],&index[m]);

}

// T stores the starting time of process

int t=0;

//Printing scheduled process

printf("Order of process Execution is\n");

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

{

printf("P%d is executed from %d to %d\n",index[i],t,t+b[i]);

t+=b[i];

}

printf("\n");

printf("Process Id Burst Time Wait Time TurnAround Time\n");

int wait\_time=0;

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

{

printf("P%d %d %d %d\n",index[i],b[i],wait\_time,wait\_time + b[i]);

wait\_time += b[i];

}

return 0;

}