#include <stdio.h>

#define MAX 100

struct process {

int pid;

int burst\_time;

int remaining\_time;

int arrival\_time;

int waiting\_time;

int turnaround\_time;

};

int main() {

int n, quantum\_time, total\_waiting\_time = 0, total\_turnaround\_time = 0;

float avg\_waiting\_time, avg\_turnaround\_time;

struct process p[MAX];

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

scanf("%d", &n);

printf("Enter the quantum time: ");

scanf("%d", &quantum\_time);

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

printf("Enter the burst time for P%d: ", i+1);

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

p[i].pid = i+1;

p[i].remaining\_time = p[i].burst\_time;

p[i].arrival\_time = 0;

}

int time = 0, remaining\_processes = n;

while(remaining\_processes) {

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

if(p[i].remaining\_time > 0) {

if(p[i].remaining\_time <= quantum\_time) {

time += p[i].remaining\_time;

p[i].remaining\_time = 0;

remaining\_processes--;

p[i].waiting\_time = time - p[i].burst\_time;

p[i].turnaround\_time = time;

}

else {

time += quantum\_time;

p[i].remaining\_time -= quantum\_time;

}

}

}

}

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

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

printf("P%d\t\t%d\t\t%d\t\t%d\n", p[i].pid, p[i].burst\_time, p[i].waiting\_time, p[i].turnaround\_time);

total\_waiting\_time += p[i].waiting\_time;

total\_turnaround\_time += p[i].turnaround\_time;

}

avg\_waiting\_time = (float) total\_waiting\_time / n;

avg\_turnaround\_time = (float) total\_turnaround\_time / n;

printf("\nAverage Waiting Time: %.2f", avg\_waiting\_time);

printf("\nAverage Turnaround Time: %.2f", avg\_turnaround\_time);

return 0;

OUTPUT

Enter the number of processes: 4

Enter the quantum time: 5

Enter the burst time for P1: 3

Enter the burst time for P2: 5

Enter the burst time for P3: 9

Enter the burst time for P4: 7

Process ID Burst Time Waiting Time Turnaround Time

P1 3 0 3

P2 5 3 8

P3 9 13 22

P4 7 17 24

Average Waiting Time: 8.25

Average Turnaround Time: 14.25

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Process exited after 55.94 seconds with return value 0

Press any key to continue . . .