

EXP 2

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#include <stdio.h>

void fcfs(int n, int bt[]) {
    int wt[10], tat[10];
    wt[0] = 0;
    for(int i = 1; i < n; i++)
        wt[i] = wt[i-1] + bt[i-1];
    printf("\nFCFS Scheduling:\n");
    printf("Process\tBurst Time\tWaiting Time\tTurnaround Time\n");
    for(int i = 0; i < n; i++) {
        tat[i] = wt[i] + bt[i];
        printf("P%d\t%d\t%d\t%d\n", i+1, bt[i], wt[i], tat[i]);
    }
}

void roundRobin(int n, int bt[], int tq) {
    int rem_bt[10], wt[10], tat[10];
    int t = 0;
    for(int i = 0; i < n; i++) {
        rem_bt[i] = bt[i];
        wt[i] = 0;
    }
    while(1) {
        int done = 1;
        for(int i = 0; i < n; i++) {
            if(rem_bt[i] > 0) {
                done = 0;
                if(rem_bt[i] > tq) {
                    t += tq;
                    rem_bt[i] -= tq;
                } else {
                    t += rem_bt[i];
                    rem_bt[i] = 0;
                }
                wt[i] = t - bt[i];
                tat[i] = wt[i] + bt[i];
            }
        }
        if(done)
            break;
    }
}
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    } else {
        t += rem_bt[i];
        wt[i] = t - bt[i];
        rem_bt[i] = 0;
    }
}

if(done == 1)
    break;
}

printf("\nRound Robin Scheduling (Time Quantum = %d):\n", tq);
printf("Process\tBurst Time\tWaiting Time\tTurnaround Time\n");

for(int i = 0; i < n; i++) {
    tat[i] = bt[i] + wt[i];
    printf("P%d\t%d\t%d\t%d\n", i+1, bt[i], wt[i], tat[i]);
}
}

int main() {
    int n, tq;
    int bt[10];

    printf("Enter number of processes: ");
    scanf("%d", &n);
    printf("Enter burst times:\n");
    for(int i = 0; i < n; i++) {
        printf("P%d: ", i+1);
        scanf("%d", &bt[i]);
    }
}

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}

fcfs(n, bt);

printf("\nEnter Time Quantum for Round Robin: ");

scanf("%d", &tq);

roundRobin(n, bt, tq);

return 0;

}

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~/LAB$ gcc -o exp2 exp2.c
~/LAB$ ./ exp2
bash: ./: Is a directory
~/LAB$ ./exp2
Enter number of processes: 4
Enter burst times:
P1: 2
P2: 1
P3: 5
P4: 3

```

FCFS Scheduling:

| Process | Burst Time | Waiting Time | Turnaround Time |
|---------|------------|--------------|-----------------|
| P1 | 2 | 0 | 2 |
| P2 | 1 | 2 | 3 |
| P3 | 5 | 3 | 8 |
| P4 | 3 | 8 | 11 |

Enter Time Quantum for Round Robin: 4

Round Robin Scheduling (Time Quantum = 4):

| Process | Burst Time | Waiting Time | Turnaround Time |
|---------|------------|--------------|-----------------|
| P1 | 2 | 0 | 2 |
| P2 | 1 | 2 | 3 |
| P3 | 5 | 6 | 11 |
| P4 | 3 | 7 | 10 |