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**COURSE- BSC IT -A**

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**SUBJECT : OPERATING SYSTEM**

**IMPLEMENTATION OF FCFS SCHEDULING ALGORITHM**

**PROGRAM**

#include <stdio.h> int waitingtime(int proc[], int n, int burst\_time[], int wait\_time[]) { wait\_time[0] = 0;

for (int i = 1; i < n ; i++ ) wait\_time[i] = burst\_time[i-1] + wait\_time[i-1] ; return 0;

}

int turnaroundtime( int proc[], int n, int burst\_time[], int wait\_time[], int tat[]) {

int i;

for ( i = 0; i < n ; i++) tat[i] = burst\_time[i] + wait\_time[i]; return 0;

}

int avgtime( int proc[], int n, int burst\_time[]) { int wait\_time[n], tat[n], total\_wt = 0, total\_tat = 0;

int i;

waitingtime(proc, n, burst\_time, wait\_time); turnaroundtime(proc, n, burst\_time, wait\_time, tat); printf("Processes Burst Waiting Turn around \n");

for ( i=0; i<n; i++) { total\_wt = total\_wt + wait\_time[i]; total\_tat = total\_tat + tat[i]; printf(" %d\t %d\t\t %d \t%d\n", i+1, burst\_time[i], wait\_time[i], tat[i]); }

printf("Average waiting time = %f\n", (float)total\_wt / (float)n); printf("Average turn around time = %f\n", (float)total\_tat / (float)n); return 0;

}

int main() { int proc[] = { 1, 2, 3}; int n = sizeof proc / sizeof proc[0]; int burst\_time[] = {5, 8, 12}; avgtime(proc, n, burst\_time);

return 0;

}

**ALGORITHM**

**START**

**Step 1-** In function int waitingtime(int proc[], int n, int burst\_time[], int wait\_time[])

Set wait\_time[0] = 0

Loop For i = 1 and i < n and i++

Set wait\_time[i] = burst\_time[i-1] + wait\_time[i-1]

End For

**Step 2-** In function int turnaroundtime( int proc[], int n, int burst\_time[], int wait\_time[], int tat[])

Loop For i = 0 and i < n and i++

Set tat[i] = burst\_time[i] + wait\_time[i]

End For

**Step 3-** In function int avgtime( int proc[], int n, int burst\_time[])

Declare and initialize wait\_time[n], tat[n], total\_wt = 0, total\_tat = 0;

Call waitingtime(proc, n, burst\_time, wait\_time)

Call turnaroundtime(proc, n, burst\_time, wait\_time, tat)

Loop For i=0 and i<n and i++

Set total\_wt = total\_wt + wait\_time[i]

Set total\_tat = total\_tat + tat[i]

Print process number, burstime wait time and turnaround time

End For

Print "Average waiting time =i.e. total\_wt / n

Print "Average turn around time = i.e. total\_tat / n

**Step 4-** In int main()

Declare the input int proc[] = { 1, 2, 3}

Declare and initialize n = sizeof proc / sizeof proc[0]

Declare and initialize burst\_time[] = {10, 5, 8}

Call avgtime(proc, n, burst\_time)

**STOP**

**OUTPUT**



