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* **CODE**
* Shortest Job First (Preemptive)

#include <stdio.h>

int main()

{

// Matrix for storing Process Id, Burst

// Time, Average Waiting Time & Average

// Turn Around Time.

int A[100][4];

int i, j, n, total = 0, index, temp;

float avg\_wt, avg\_tat;

printf("Enter number of process: ");

scanf("%d", &n);

printf("Enter Burst Time:\n");

// User Input Burst Time and alloting Process Id.

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

printf("P%d: ", i + 1);

scanf("%d", &A[i][1]);

A[i][0] = i + 1;

}

// Sorting process according to their Burst Time.

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

index = i;

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

if (A[j][1] < A[index][1])

index = j;

temp = A[i][1];

A[i][1] = A[index][1];

A[index][1] = temp;

temp = A[i][0];

A[i][0] = A[index][0];

A[index][0] = temp;

}

A[0][2] = 0;

// Calculation of Waiting Times

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

A[i][2] = 0;

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

A[i][2] += A[j][1];

total += A[i][2];

}

avg\_wt = (float)total / n;

total = 0;

printf("P BT WT TAT\n");

// Calculation of Turn Around Time and printing the

// data.

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

A[i][3] = A[i][1] + A[i][2];

total += A[i][3];

printf("P%d %d %d %d\n", A[i][0],

A[i][1], A[i][2], A[i][3]);

}

avg\_tat = (float)total / n;

printf("Average Waiting Time= %f", avg\_wt);

printf("\nAverage Turnaround Time= %f", avg\_tat);

}

* Round Robin

#include<stdio.h>

int main()

{

//Input no of processed

int n;

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(int 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,i;

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;

}

* **OUTPUT**



