**EXPERIMENT: 04** Construct a scheduling program with C that selects the waiting process with the smallest execution time to execute next

**PROGRAM:**

#include <stdio.h>

int main() {

int n, i, j;

int bt[20], wt[20], tat[20], p[20];

float avg\_wt = 0, avg\_tat = 0;

printf("Enter number of processes: ");

scanf("%d", &n);

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

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

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

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

p[i] = i + 1;

}

// Sort processes by burst time

for (i = 0; i < n - 1; i++) {

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

if (bt[i] > bt[j]) {

int temp = bt[i]; bt[i] = bt[j]; bt[j] = temp;

temp = p[i]; p[i] = p[j]; p[j] = temp;

}

}

}

wt[0] = 0; // First process has 0 waiting time

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

wt[i] = wt[i - 1] + bt[i - 1];

}

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

tat[i] = wt[i] + bt[i];

avg\_wt += wt[i];

avg\_tat += tat[i];

}

printf("\nProcess\tBT\tWT\tTAT\n");

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

printf("P%d\t%d\t%d\t%d\n", p[i], bt[i], wt[i], tat[i]);

}

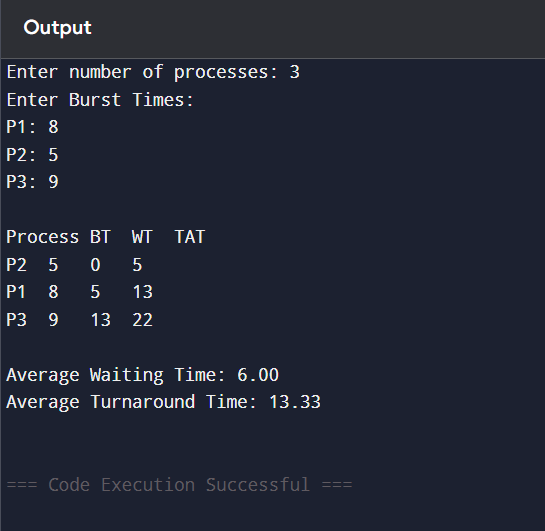
printf("\nAverage Waiting Time: %.2f", avg\_wt / n);

printf("\nAverage Turnaround Time: %.2f\n", avg\_tat / n);

return 0;

}

**OUTPUT:**

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