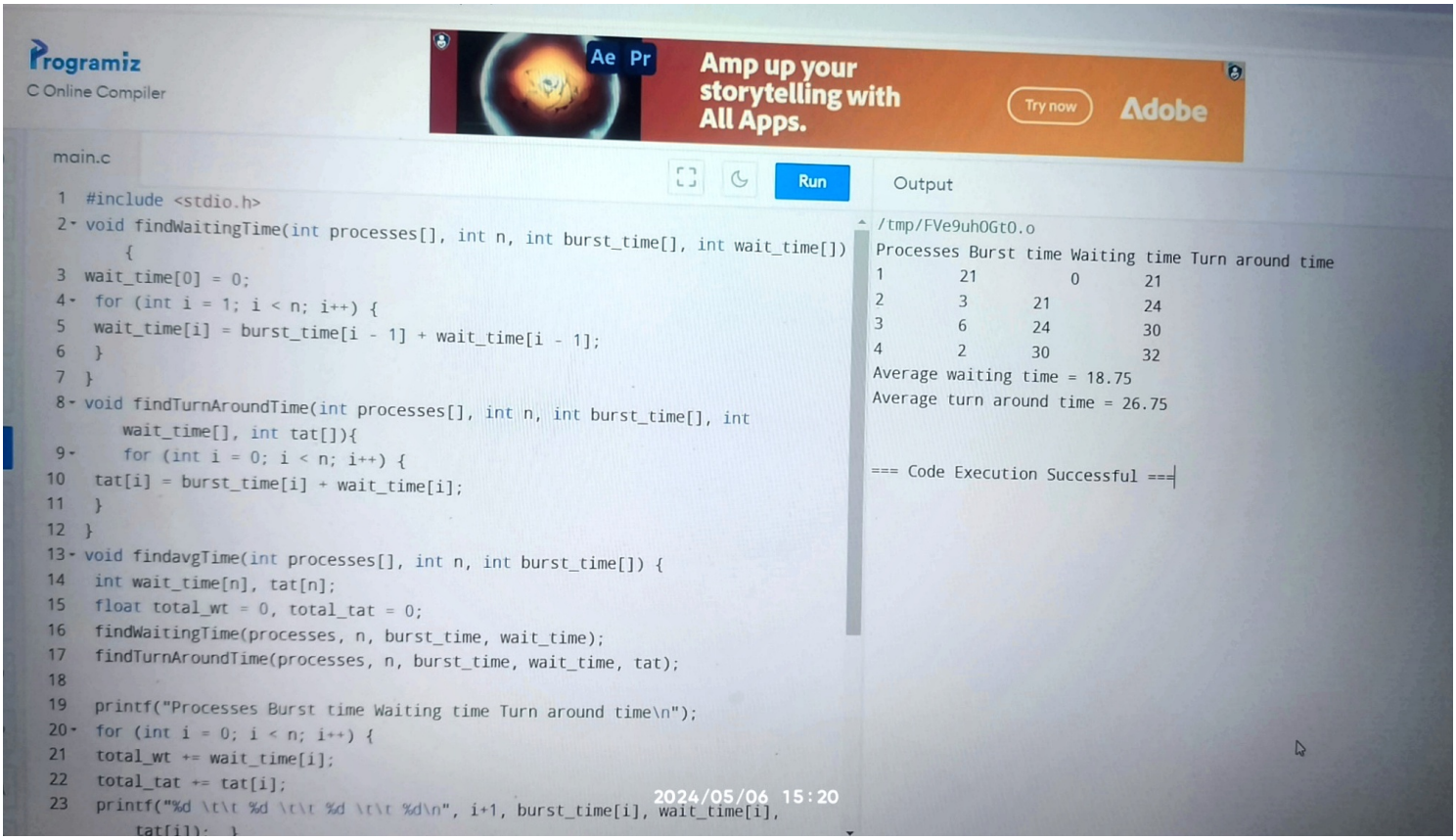
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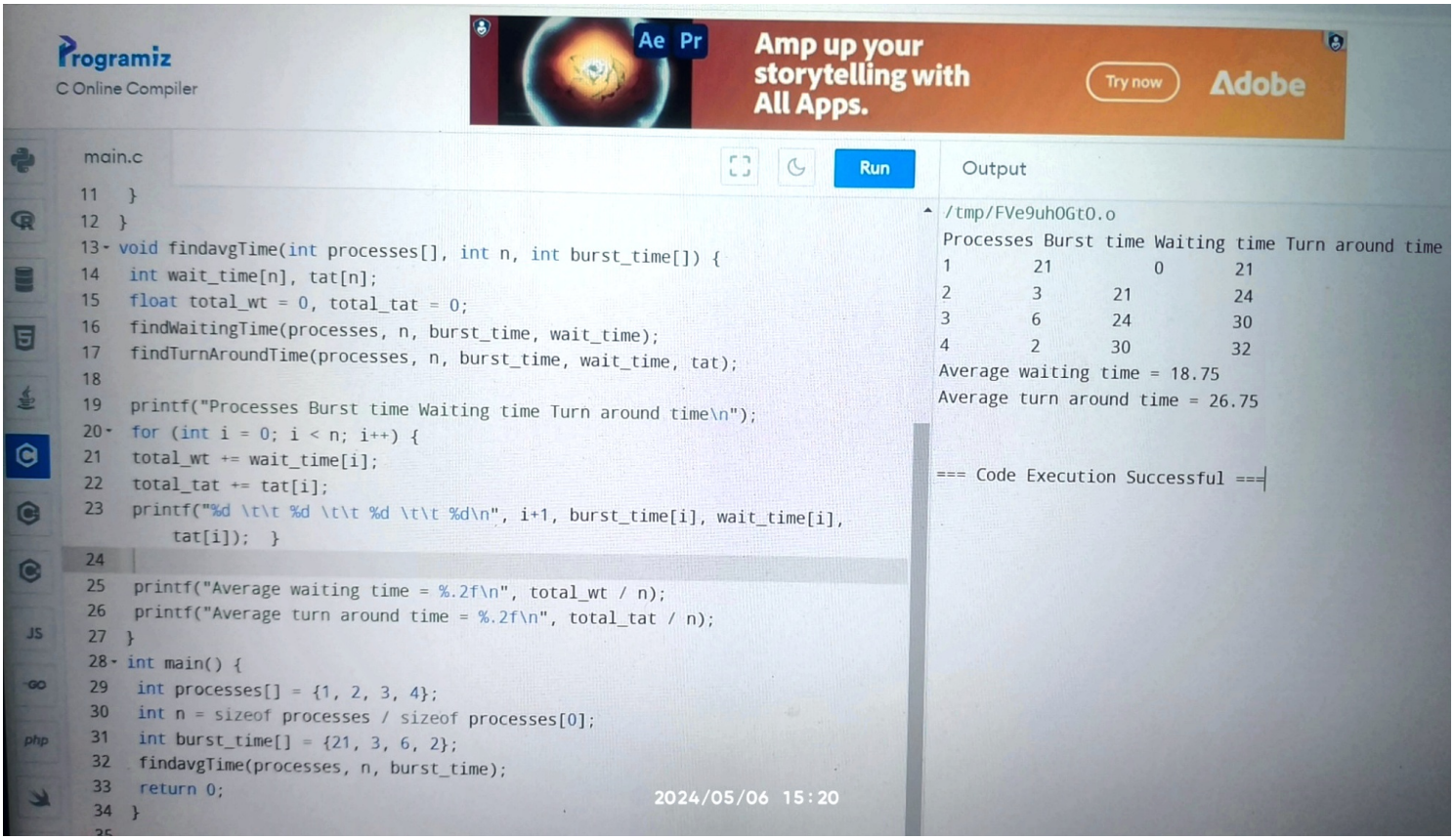
main.c
Run
Output
#include <stdio.h>
void findWaitingTime(int processes[], int n, int burst_time[], int wait_time[])
{
wait_time[0] = 0;
for (int i = 1; i < n; i++) {
wait_time[i] = burst_time[i - 1] + wait_time[i - 1];
}
}
void findTurnAroundTime(int processes[], int n, int burst_time[], int
wait_time[], int tat[]){
for (int i = 0; i < n; i++) {
tat[i] = burst_time[i] + wait_time[i];
}
}
void findavgTime(int processes[], int n, int burst_time[]) {
int wait_time[n], tat[n];
float total_wt = 0, total_tat = 0;
findWaitingTime(processes, n, burst_time, wait_time);
findTurnAroundTime(processes, n, burst_time, wait_time, tat);
printf("Processes Burst time Waiting time Turn around time\n");
for (int i = 0; i < n; i++) {
total_wt += wait_time[i];
total_tat += tat[i];
printf("%d \t\t %d \t\t %d \t\t %d\n", i+1, burst_time[i], wait_time[i],
/tmp/FVe9uhOGtO.o
Processes Burst time Waiting time Turn around time
1 21 0 21
2 3 21 24
3 6 24 30
4 2 30 32
Average waiting time = 18.75
Average turn around time = 26.75
=== Code Execution Successful ===
2024/05/06 15:20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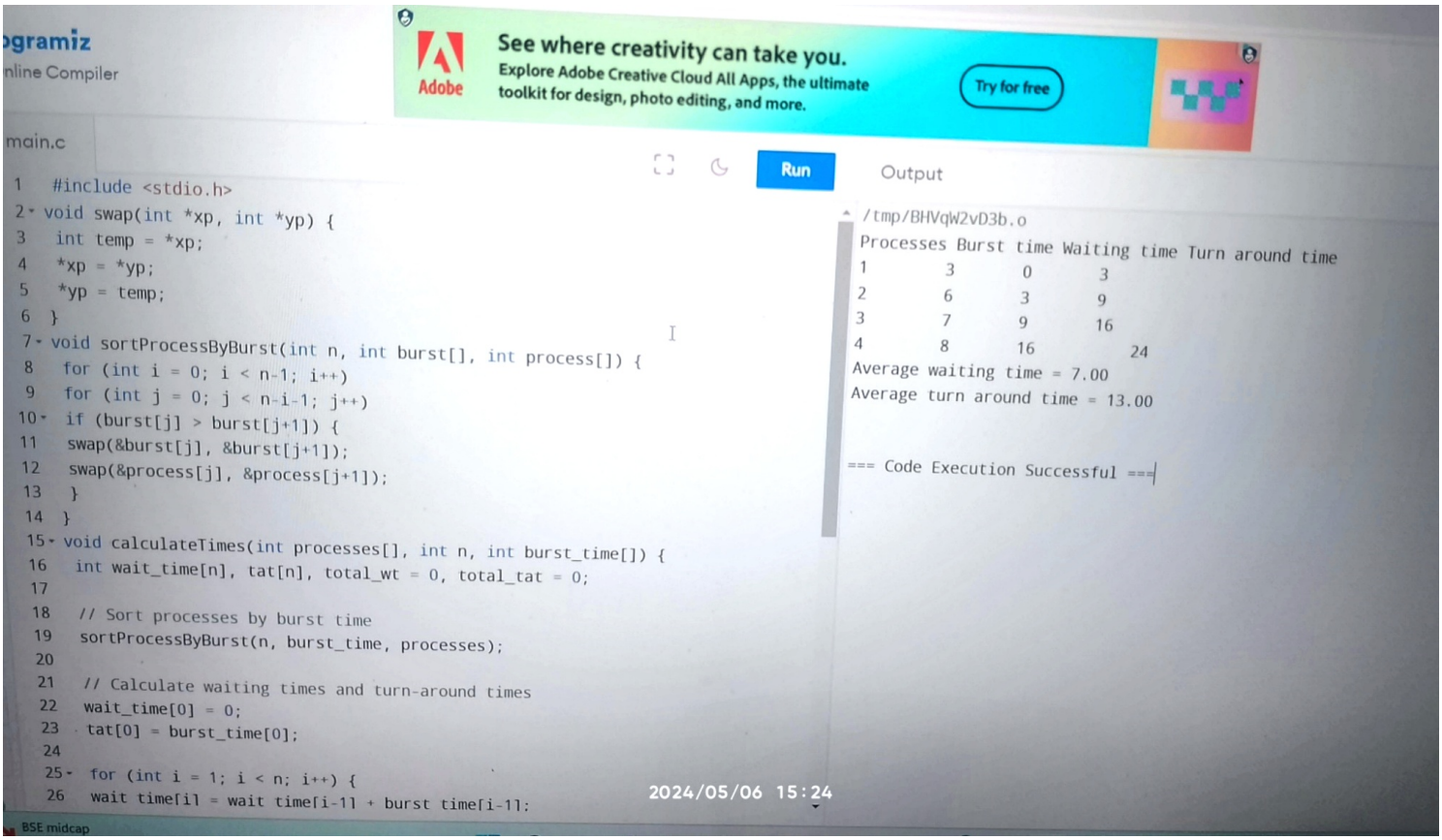
main.c
Run
Output
}
}
void findavgTime(int processes[], int n, int burst_time[]) {
int wait_time[n], tat[n];
float total_wt = 0, total_tat = 0;
findWaitingTime(processes, n, burst_time, wait_time);
findTurnAroundTime(processes, n, burst_time, wait_time, tat);
printf("Processes Burst time Waiting time Turn around time\n");
for (int i = 0; i < n; i++) {
total_wt += wait_time[i];
total_tat += tat[i];
printf("%d \t\t %d \t\t %d \t\t %d\n", i+1, burst_time[i], wait_time[i],
tat[i]); }
printf("Average waiting time = %.2f\n", total_wt / n);
printf("Average turn around time = %.2f\n", total_tat / n);
}
int main() {
int processes[] = {1, 2, 3, 4};
int n = sizeof processes / sizeof processes[0];
int burst_time[] = {21, 3, 6, 2};
findavgTime(processes, n, burst_time);
return 0;
}
2024/05/06 15:20
/tmp/FVe9uhOGtO.o
Processes Burst time Waiting time Turn around time
1 21 0 21
2 3 21 24
3 6 24 30
4 2 30 32
Average waiting time = 18.75
Average turn around time = 26.75
=== Code Execution Successful ===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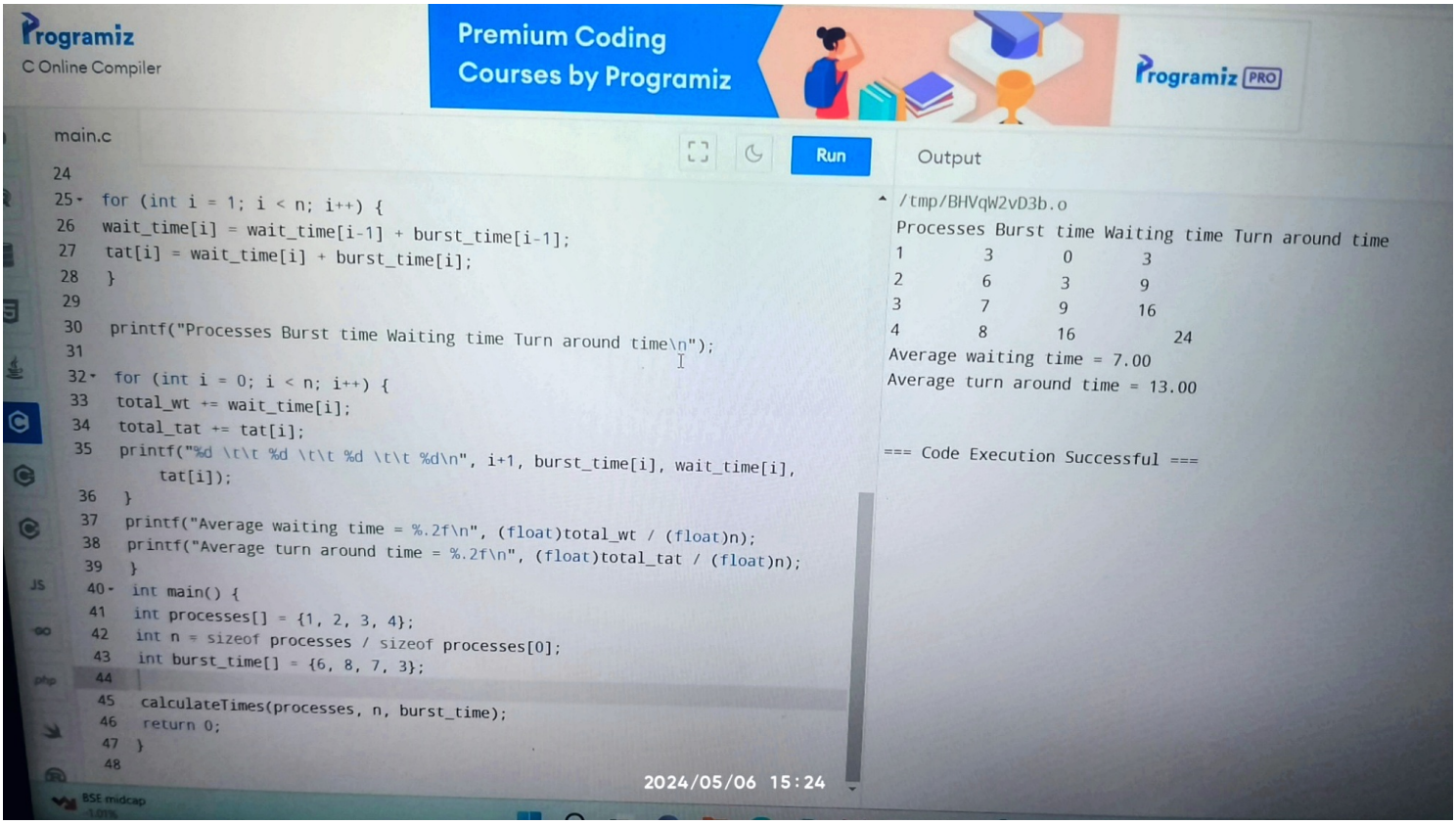
main.c
Run
Output
#include <stdio.h>
void swap(int *xp, int *yp) {
int temp = *xp;
*xp = *yp;
*yp = temp;
}
void sortProcessByBurst(int n, int burst[], int process[]) {
for (int i = 0; i < n-1; i++)
for (int j = 0; j < n-i-1; j++)
if (burst[j] > burst[j+1]) {
swap(&burst[j], &burst[j+1]);
swap(&process[j], &process[j+1]);
}
}
void calculateTimes(int processes[], int n, int burst_time[]) {
int wait_time[n], tat[n], total_wt = 0, total_tat = 0;
// Sort processes by burst time
sortProcessByBurst(n, burst_time, processes);
// Calculate waiting times and turn-around times
wait_time[0] = 0;
tat[0] = burst_time[0];
for (int i = 1; i < n; i++) {
wait time[i] = wait time[i-1] + burst time[i-1];
/tmp/BHVqW2vD3b.o
Processes Burst time Waiting time Turn around time
1 3 0 3
2 6 3 9
3 7 9 16
4 8 16 24
Average waiting time = 7.00
Average turn around time = 13.00
=== Code Execution Successful ===
2024/05/06 15:24
BSE midcap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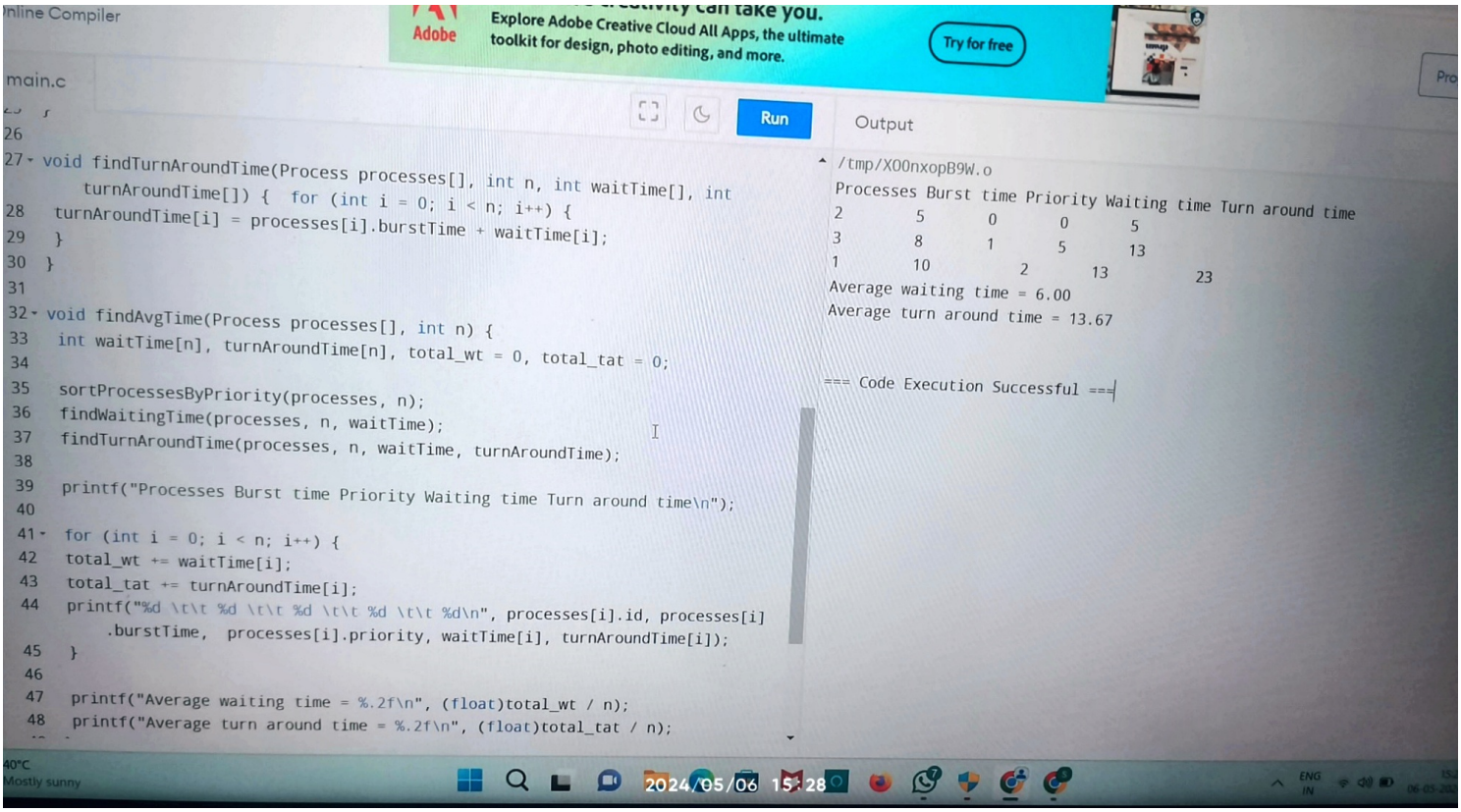
main.c
Run
Output
for (int i = 1; i < n; i++) {
wait_time[i] = wait_time[i-1] + burst_time[i-1];
tat[i] = wait_time[i] + burst_time[i];
}
printf("Processes Burst time Waiting time Turn around time\n");
for (int i = 0; i < n; i++) {
total_wt += wait_time[i];
total_tat += tat[i];
printf("%d \t\t %d \t\t %d \t\t %d\n", i+1, burst_time[i], wait_time[i],
tat[i]);
}
printf("Average waiting time = %.2f\n", (float)total_wt / (float)n);
printf("Average turn around time = %.2f\n", (float)total_tat / (float)n);
}
int main() {
int processes[] = {1, 2, 3, 4};
int n = sizeof processes / sizeof processes[0];
int burst_time[] = {6, 8, 7, 3};
calculateTimes(processes, n, burst_time);
return 0;
}
/tmp/BHVqW2vD3b.o
Processes Burst time Waiting time Turn around time
1 3 0 3
2 6 3 9
3 7 9 16
4 8 16 24
Average waiting time = 7.00
Average turn around time = 13.00
=== Code Execution Successful ===
2024/05/06 15:24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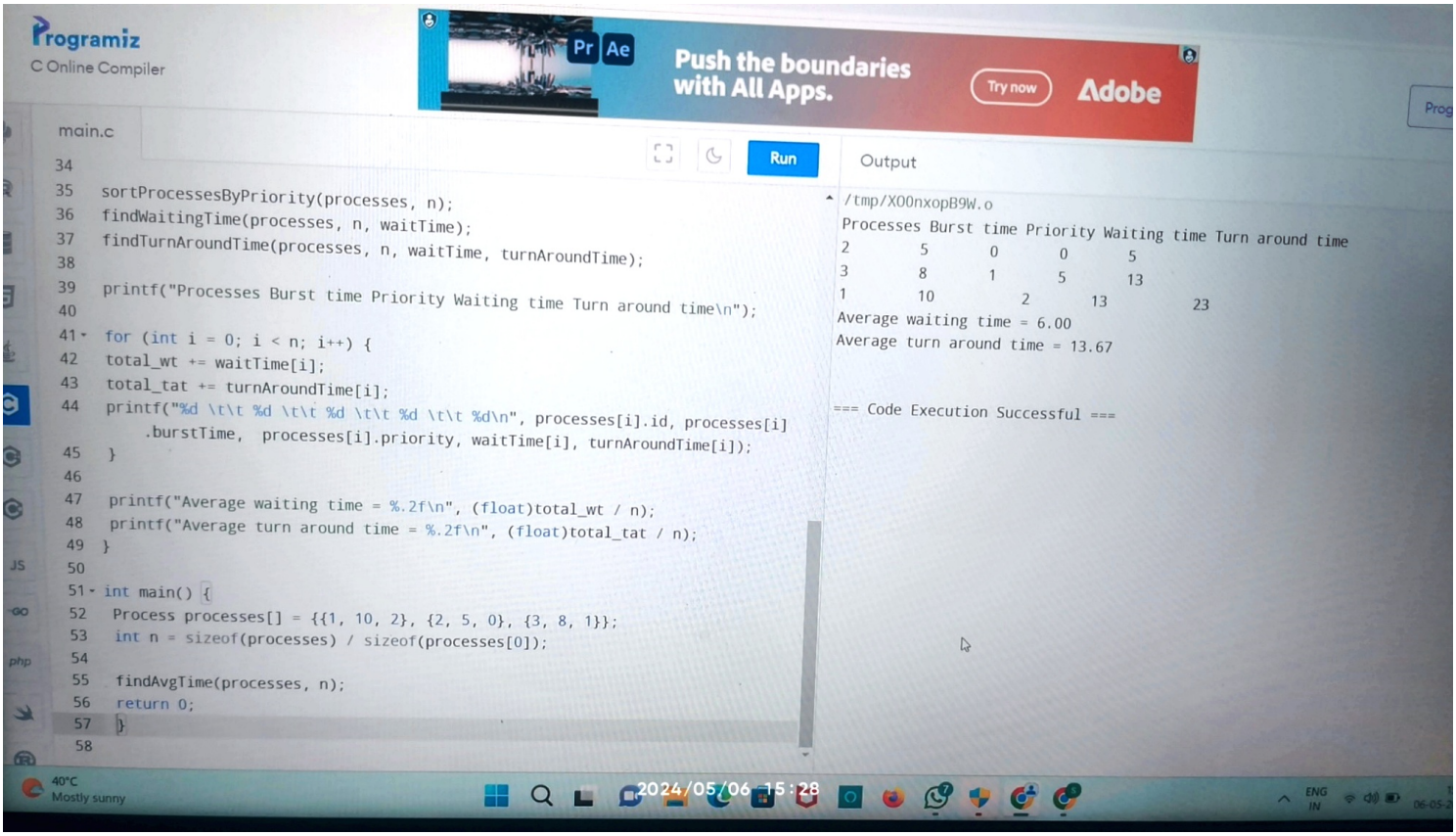
main.c
Run
Output
void findTurnAroundTime(Process processes[], int n, int waitTime[], int turnAroundTime[]) { for (int i = 0; i < n; i++) {
turnAroundTime[i] = processes[i].burstTime + waitTime[i];
}
}
void findAvgTime(Process processes[], int n) {
int waitTime[n], turnAroundTime[n], total_wt = 0, total_tat = 0;
sortProcessesByPriority(processes, n);
findWaitingTime(processes, n, waitTime);
findTurnAroundTime(processes, n, waitTime, turnAroundTime);
printf("Processes Burst time Priority Waiting time Turn around time\n");
for (int i = 0; i < n; i++) {
total_wt += waitTime[i];
total_tat += turnAroundTime[i];
printf("%d \t\t %d \t\t %d \t\t %d \t\t %d\n", processes[i].id, processes[i].burstTime, processes[i].priority, waitTime[i], turnAroundTime[i]);
}
printf("Average waiting time = %.2f\n", (float)total_wt / n);
printf("Average turn around time = %.2f\n", (float)total_tat / n);
/tmp/XO0nxopB9W.o
Processes Burst time Priority Waiting time Turn around time
2 5 0 0 5
3 8 1 5 13
1 10 2 13 23
Average waiting time = 6.00
Average turn around time = 13.67
=== Code Execution Successful ===
40°C
Mostly sunny
2024/05/06 15:28
ENG
IN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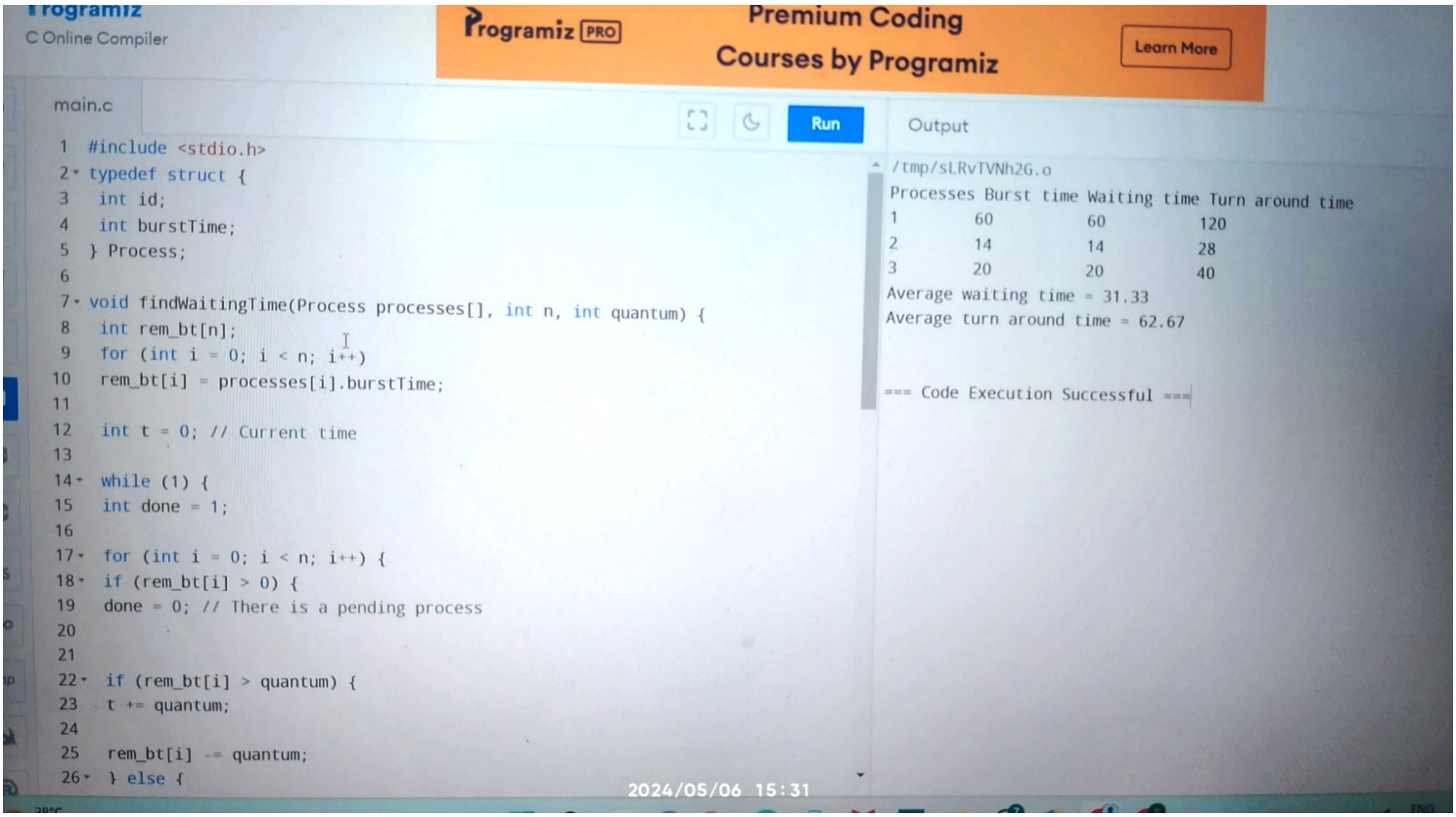
main.c
Run
Output
sortProcessesByPriority(processes, n);
findWaitingTime(processes, n, waitTime);
findTurnAroundTime(processes, n, waitTime, turnAroundTime);
printf("Processes Burst time Priority Waiting time Turn around time\n");
for (int i = 0; i < n; i++) {
total_wt += waitTime[i];
total_tat += turnAroundTime[i];
printf("%d \t\t %d \t\t %d \t\t %d \t\t %d\n", processes[i].id, processes[i]
.burstTime, processes[i].priority, waitTime[i], turnAroundTime[i]);
}
printf("Average waiting time = %.2f\n", (float)total_wt / n);
printf("Average turn around time = %.2f\n", (float)total_tat / n);
}
int main() {
Process processes[] = {{1, 10, 2}, {2, 5, 0}, {3, 8, 1}};
int n = sizeof(processes) / sizeof(processes[0]);
findAvgTime(processes, n);
return 0;
}
/tmp/XO0nxopB9W.o
Processes Burst time Priority Waiting time Turn around time
2 5 0 0 5
3 8 1 5 13
1 10 2 13 23
Average waiting time = 6.00
Average turn around time = 13.67
=== Code Execution Successful ===
40°C
Mostly sunny
2024/05/06 15:28
ENG
IN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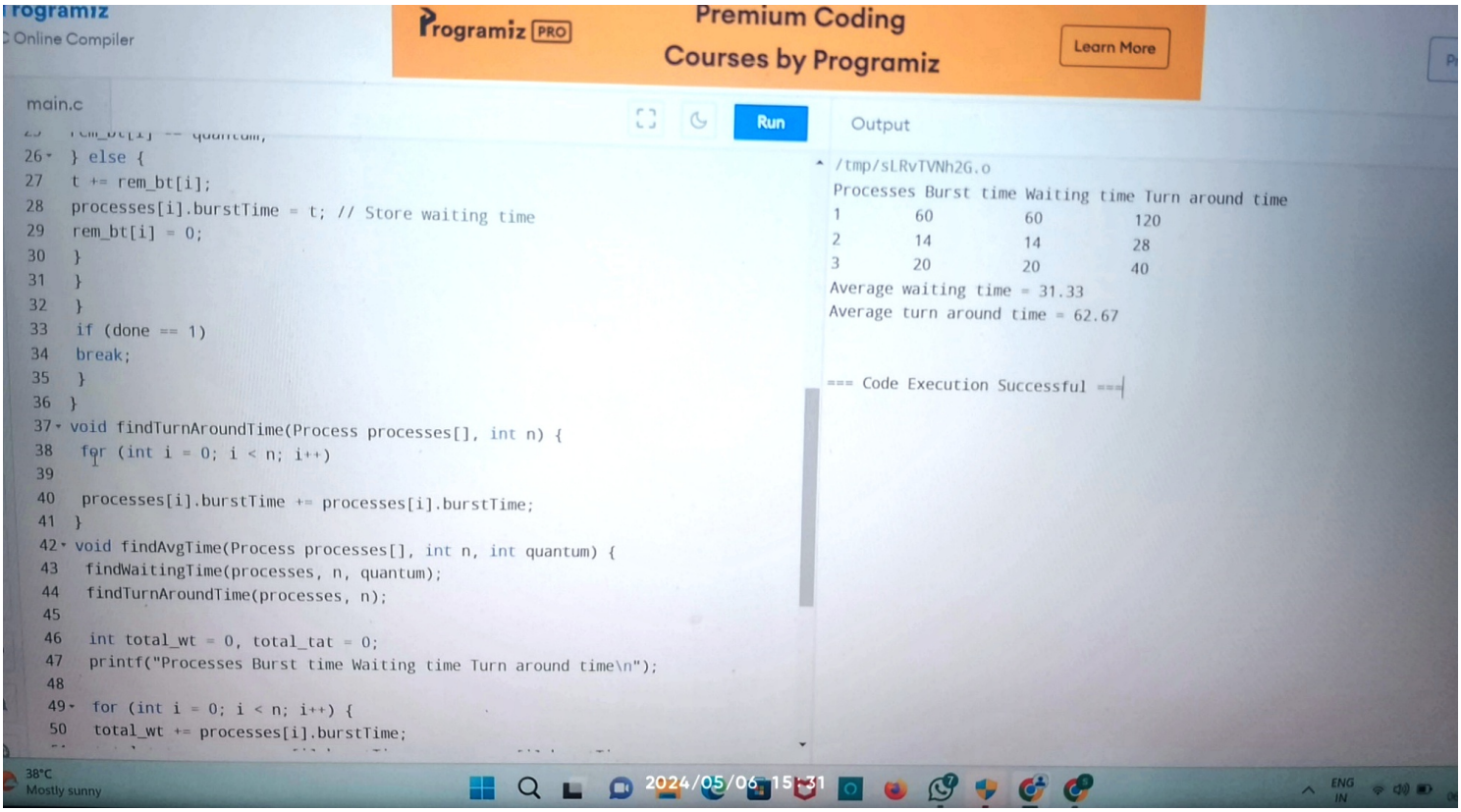
main.c
Run
Output
#include <stdio.h>
typedef struct {
int id;
int burstTime;
} Process;
void findWaitingTime(Process processes[], int n, int quantum) {
int rem_bt[n];
for (int i = 0; i < n; i++)
rem_bt[i] = processes[i].burstTime;
int t = 0; // Current time
while (1) {
int done = 1;
for (int i = 0; i < n; i++) {
if (rem_bt[i] > 0) {
done = 0; // There is a pending process
if (rem_bt[i] > quantum) {
t += quantum;
rem_bt[i] -= quantum;
} else {
/tmp/sLRvTVNh2G.o
Processes Burst time Waiting time Turn around time
1 60 60 120
2 14 14 28
3 20 20 40
Average waiting time = 31.33
Average turn around time = 62.67
=== Code Execution Successful ===
2024/05/06 15:31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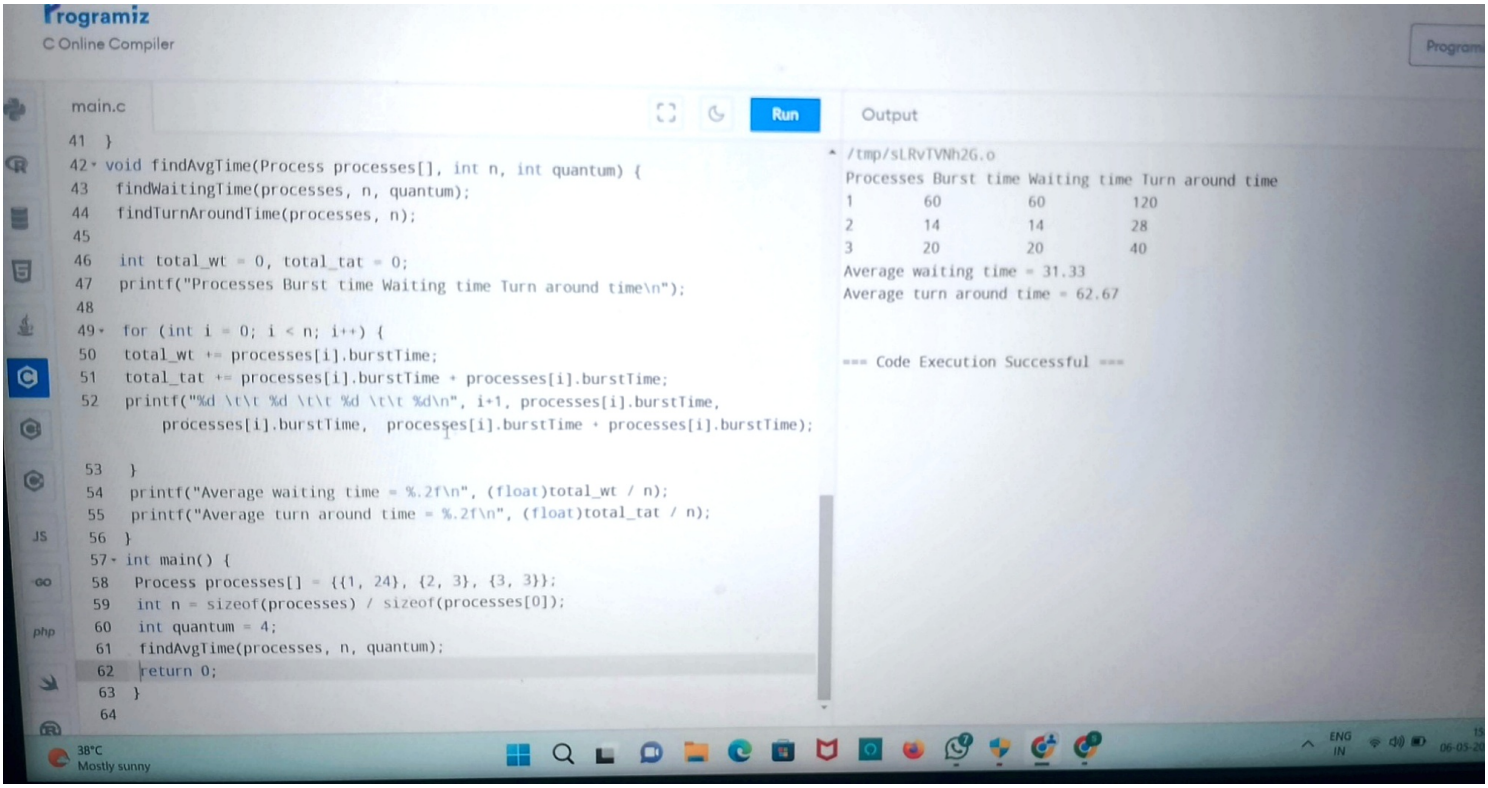
main.c
Run
Output
} else {
t += rem_bt[i];
processes[i].burstTime = t; // Store waiting time
rem_bt[i] = 0;
}
}
}
if (done == 1)
break;
}
}
void findTurnAroundTime(Process processes[], int n) {
for (int i = 0; i < n; i++)
processes[i].burstTime += processes[i].burstTime;
}
void findAvgTime(Process processes[], int n, int quantum) {
findWaitingTime(processes, n, quantum);
findTurnAroundTime(processes, n);
int total_wt = 0, total_tat = 0;
printf("Processes Burst time Waiting time Turn around time\n");
for (int i = 0; i < n; i++) {
total_wt += processes[i].burstTime;
/tmp/sLRvTVNh2G.o
Processes Burst time Waiting time Turn around time
1 60 60 120
2 14 14 28
3 20 20 40
Average waiting time = 31.33
Average turn around time = 62.67
=== Code Execution Successful ===
38°C
Mostly sunny
2024/05/06 15:31
ENG
IN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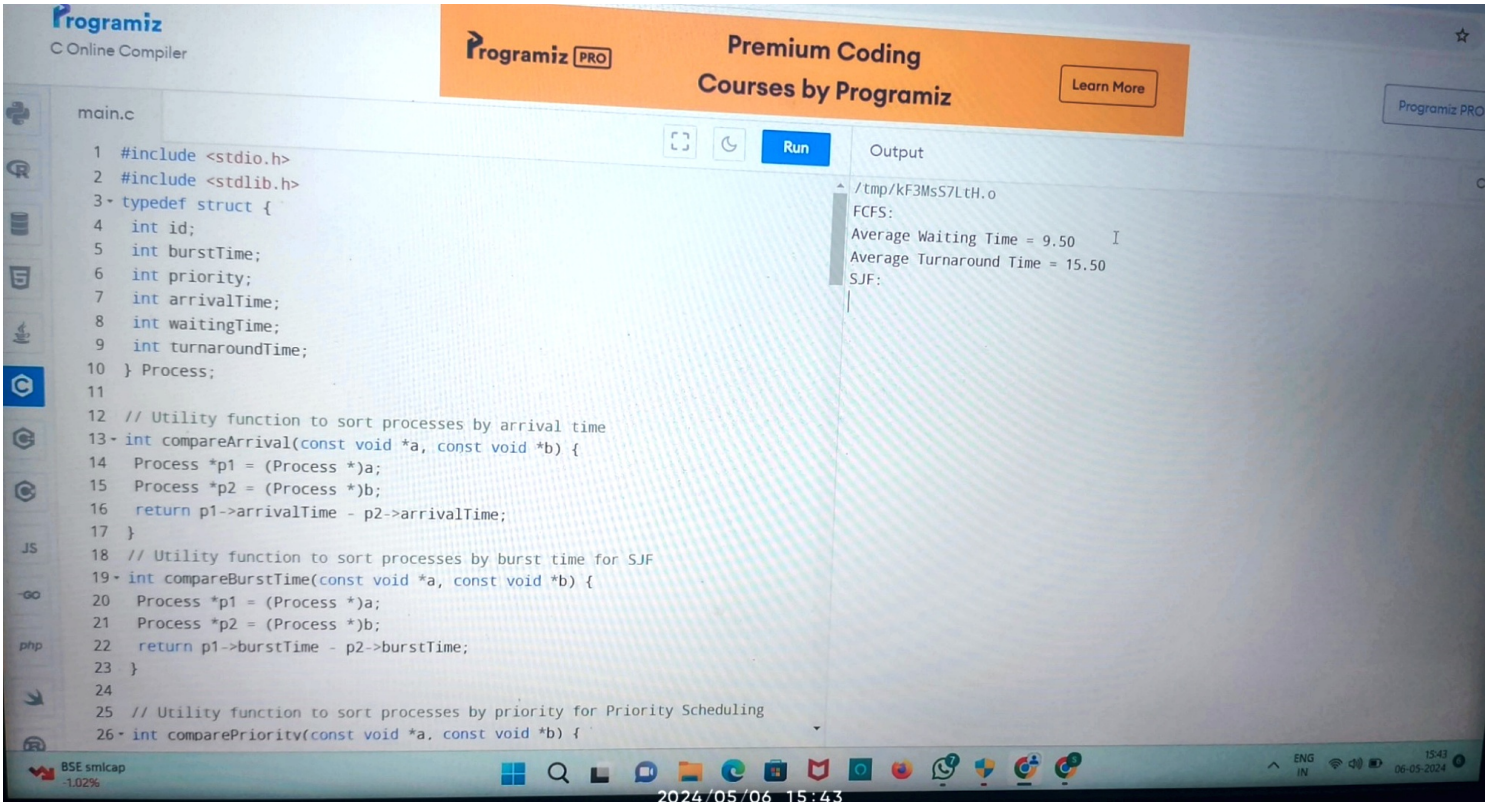
main.c
Run
Output
}
void findAvgTime(Process processes[], int n, int quantum) {
findWaitingTime(processes, n, quantum);
findTurnAroundTime(processes, n);
int total_wt = 0, total_tat = 0;
printf("Processes Burst time Waiting time Turn around time\n");
for (int i = 0; i < n; i++) {
total_wt += processes[i].burstTime;
total_tat += processes[i].burstTime + processes[i].burstTime;
printf("%d \t\t %d \t\t %d \t\t %d\n", i+1, processes[i].burstTime,
processes[i].burstTime, processes[i].burstTime + processes[i].burstTime);
}
printf("Average waiting time = %.2f\n", (float)total_wt / n);
printf("Average turn around time = %.2f\n", (float)total_tat / n);
}
int main() {
Process processes[] = {{1, 24}, {2, 3}, {3, 3}};
int n = sizeof(processes) / sizeof(processes[0]);
int quantum = 4;
findAvgTime(processes, n, quantum);
return 0;
}
/tmp/sLRvTVNh2G.o
Processes Burst time Waiting time Turn around time
1 60 60 120
2 14 14 28
3 20 20 40
Average waiting time = 31.33
Average turn around time = 62.67
=== Code Execution Successful ===
38°C
Mostly sunny
ENG
IN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main.c
Run
Output
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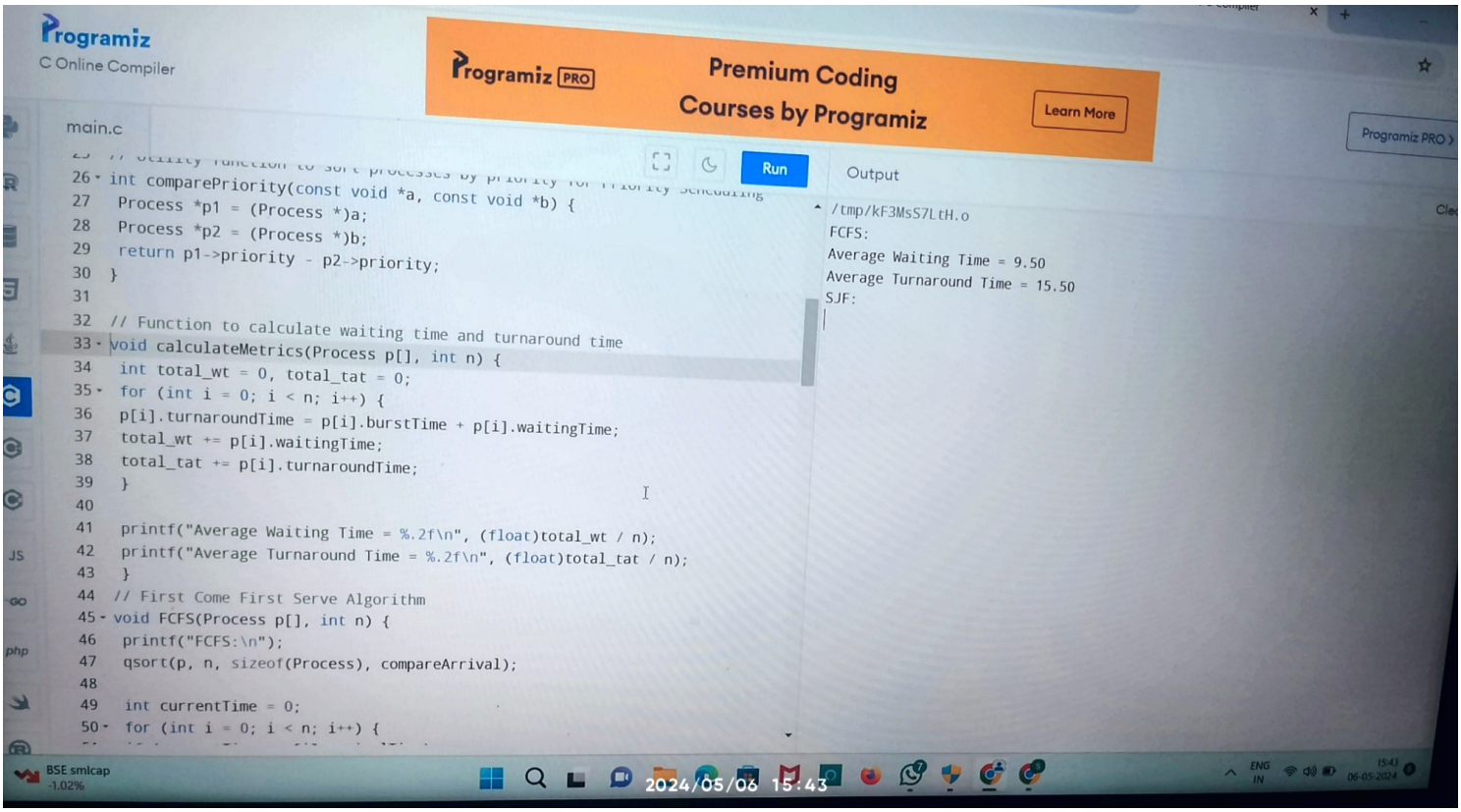
#include <stdio.h>
#include <stdlib.h>
typedef struct {
int id;
int burstTime;
int priority;
int arrivalTime;
int waitingTime;
int turnaroundTime;
} Process;
// Utility function to sort processes by arrival time
int compareArrival(const void *a, const void *b) {
Process *p1 = (Process *)a;
Process *p2 = (Process *)b;
return p1->arrivalTime - p2->arrivalTime;
}
// Utility function to sort processes by burst time for SJF
int compareBurstTime(const void *a, const void *b) {
Process *p1 = (Process *)a;
Process *p2 = (Process *)b;
return p1->burstTime - p2->burstTime;
}
// Utility function to sort processes by priority for Priority Scheduling
int comparePriority(const void *a, const void *b) {
/tmp/kF3MsS7LtH.o
FCFS:
Average Waiting Time = 9.50
Average Turnaround Time = 15.50
SJF:
BSE smlcap
-1.02%
ENG
IN
15:43
06-05-2024
2024/05/06 15:43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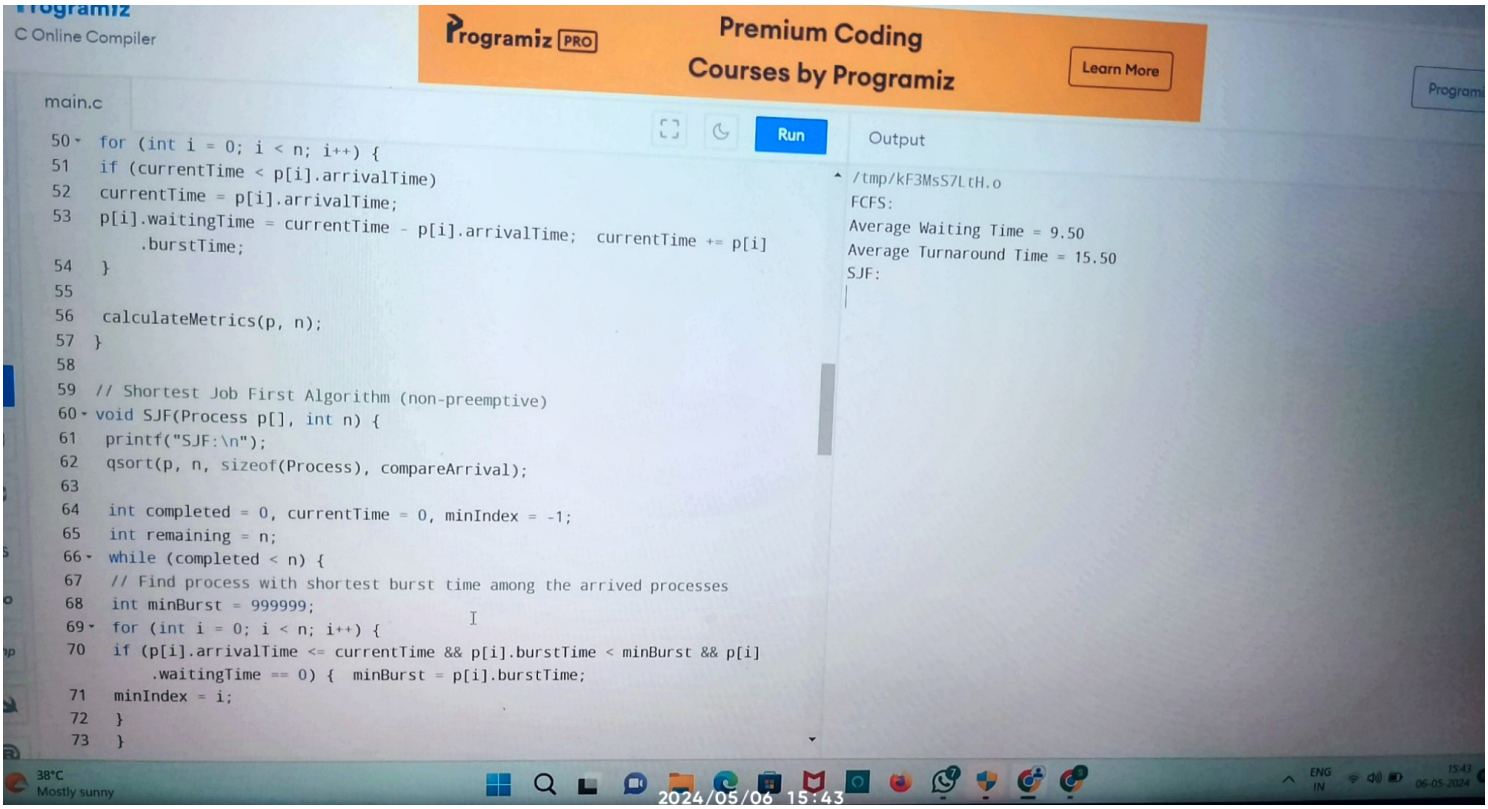
main.c
Run
Output
Programiz PRO
/tmp/kF3MsS7LtH.o
FCFS:
Average Waiting Time = 9.50
Average Turnaround Time = 15.50
SJF:
int comparePriority(const void *a, const void *b) {
Process *p1 = (Process *)a;
Process *p2 = (Process *)b;
return p1->priority - p2->priority;
}
// Function to calculate waiting time and turnaround time
void calculateMetrics(Process p[], int n) {
int total_wt = 0, total_tat = 0;
for (int i = 0; i < n; i++) {
p[i].turnaroundTime = p[i].burstTime + p[i].waitingTime;
total_wt += p[i].waitingTime;
total_tat += p[i].turnaroundTime;
}
printf("Average Waiting Time = %.2f\n", (float)total_wt / n);
printf("Average Turnaround Time = %.2f\n", (float)total_tat / n);
}
// First Come First Serve Algorithm
void FCFS(Process p[], int n) {
printf("FCFS:\n");
qsort(p, n, sizeof(Process), compareArrival);
int currentTime = 0;
for (int i = 0; i < n; i++) {
BSE smlcap
-1.02%
2024/05/06 15:43
ENG
IN
06-05-2024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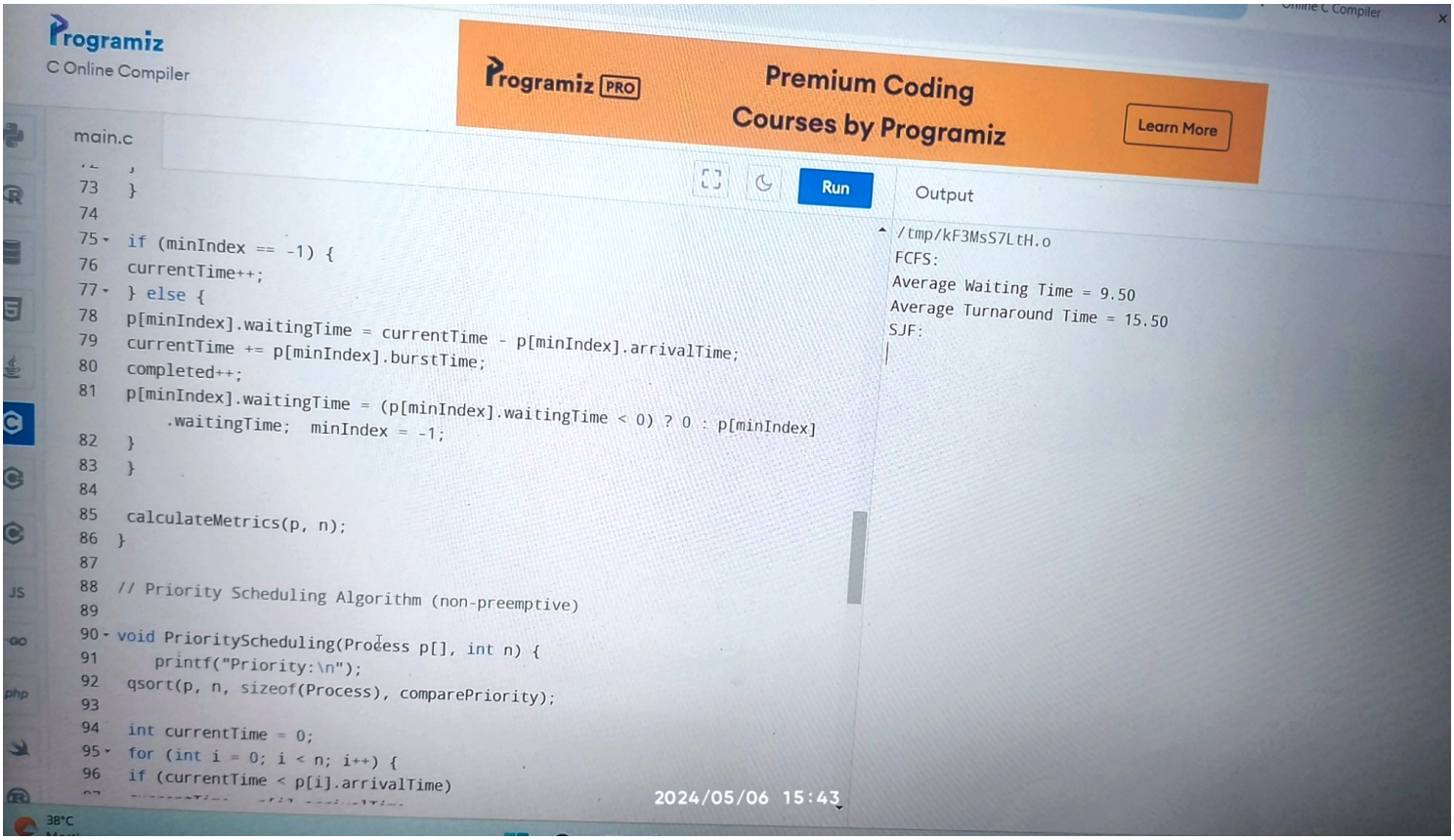
main.c
Run
Output
for (int i = 0; i < n; i++) {
if (currentTime < p[i].arrivalTime)
currentTime = p[i].arrivalTime;
p[i].waitingTime = currentTime - p[i].arrivalTime; currentTime += p[i]
.burstTime;
}
calculateMetrics(p, n);
}
// Shortest Job First Algorithm (non-preemptive)
void SJF(Process p[], int n) {
printf("SJF:\n");
qsort(p, n, sizeof(Process), compareArrival);
int completed = 0, currentTime = 0, minIndex = -1;
int remaining = n;
while (completed < n) {
// Find process with shortest burst time among the arrived processes
int minBurst = 999999;
for (int i = 0; i < n; i++) {
if (p[i].arrivalTime <= currentTime && p[i].burstTime < minBurst && p[i]
.waitingTime == 0) { minBurst = p[i].burstTime;
minIndex = i;
}
}
/tmp/kF3MsS7LtH.o
FCFS:
Average Waiting Time = 9.50
Average Turnaround Time = 15.50
SJF:
38°C
Mostly sunny
ENG
IN
2024/05/06 15:43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main.c
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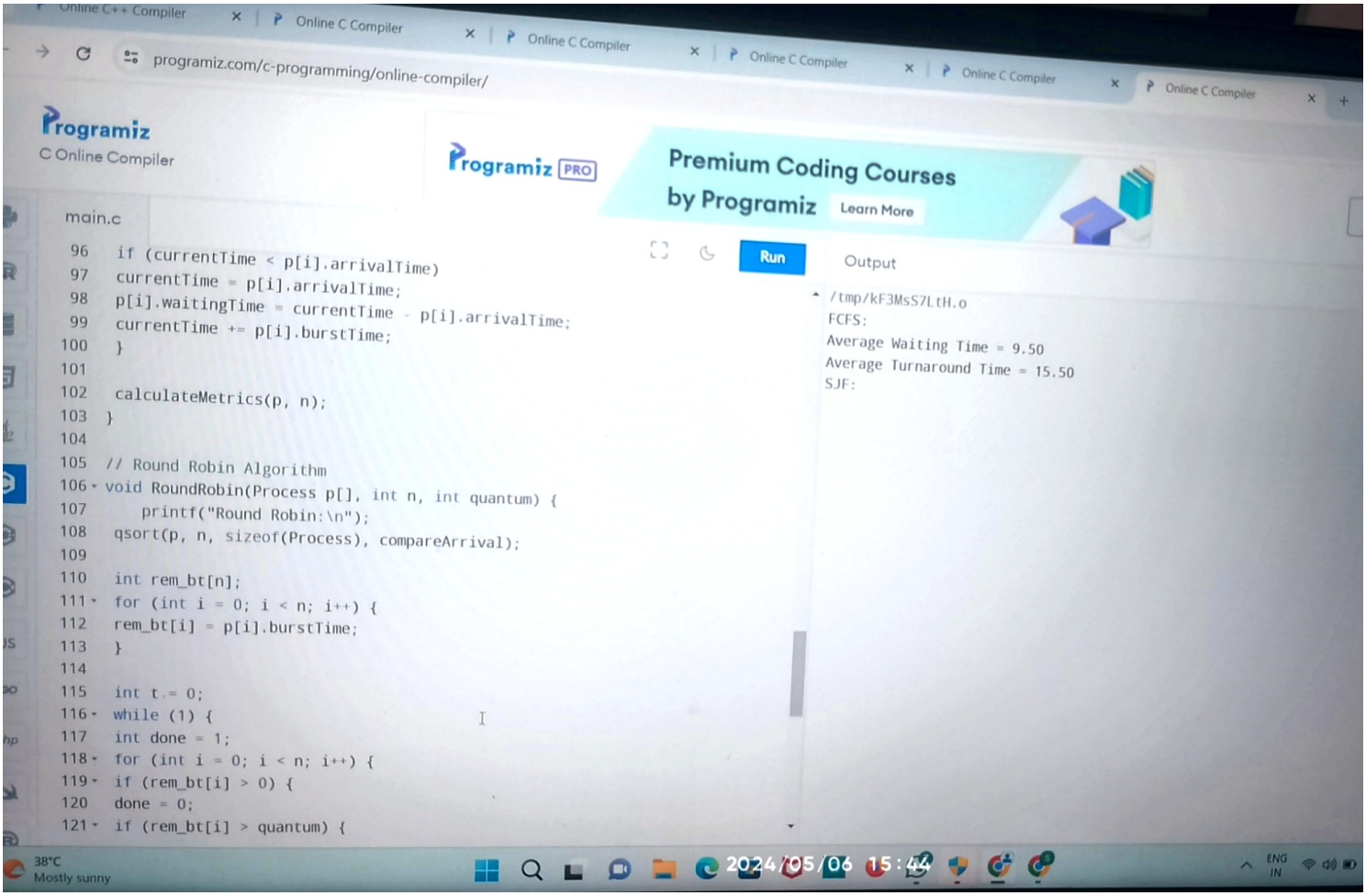
/tmp/kF3MsS7LtH.o
FCFS:
Average Waiting Time = 9.50
Average Turnaround Time = 15.50
SJF:
73 }
74
75 if (minIndex == -1) {
76 currentTime++;
77 } else {
78 p[minIndex].waitingTime = currentTime - p[minIndex].arrivalTime;
79 currentTime += p[minIndex].burstTime;
80 completed++;
81 p[minIndex].waitingTime = (p[minIndex].waitingTime < 0) ? 0 : p[minIndex]
.waitingTime; minIndex = -1;
82 }
83 }
84
85 calculateMetrics(p, n);
86 }
87
88 // Priority Scheduling Algorithm (non-preemptive)
89
90 void PriorityScheduling(Process p[], int n) {
91 printf("Priority:\n");
92 qsort(p, n, sizeof(Process), comparePriority);
93
94 int currentTime = 0;
95 for (int i = 0; i < n; i++) {
96 if (currentTime < p[i].arrivalTime)
2024/05/06 15:43
38°C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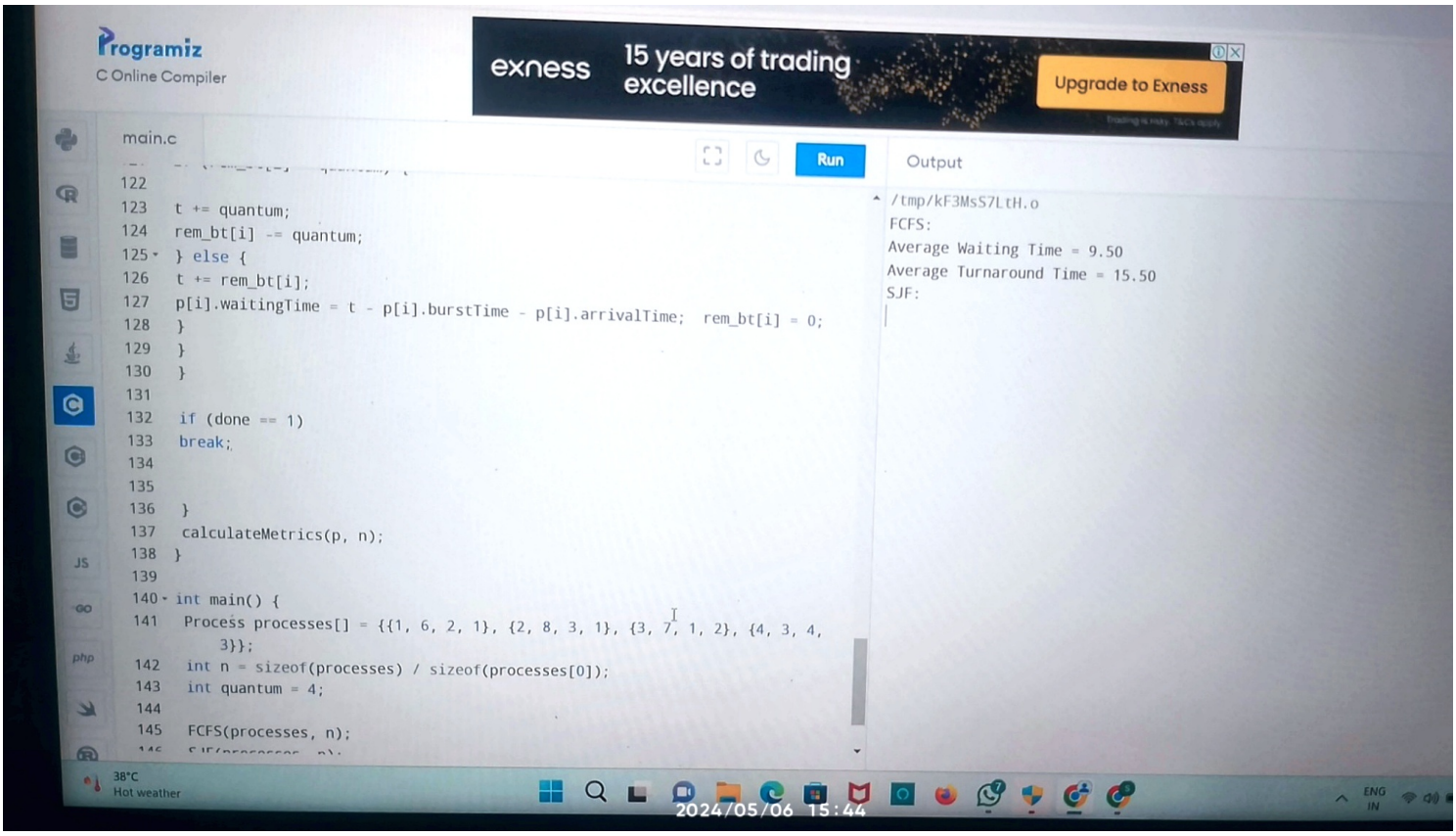
main.c
Run
Output
/tmp/kF3MsS7LtH.o
FCFS:
Average Waiting Time = 9.50
Average Turnaround Time = 15.50
SJF:
96 if (currentTime < p[i].arrivalTime)
97 currentTime = p[i].arrivalTime;
98 p[i].waitingTime = currentTime - p[i].arrivalTime;
99 currentTime += p[i].burstTime;
100 }
101
102 calculateMetrics(p, n);
103 }
104
105 // Round Robin Algorithm
106 void RoundRobin(Process p[], int n, int quantum) {
107 printf("Round Robin:\n");
108 qsort(p, n, sizeof(Process), compareArrival);
109
110 int rem_bt[n];
111 for (int i = 0; i < n; i++) {
112 rem_bt[i] = p[i].burstTime;
113 }
114
115 int t = 0;
116 while (1) {
117 int done = 1;
118 for (int i = 0; i < n; i++) {
119 if (rem_bt[i] > 0) {
120 done = 0;
121 if (rem_bt[i] > quantum) {
38°C
Mostly sunny
2024/05/06 15:44
ENG
IN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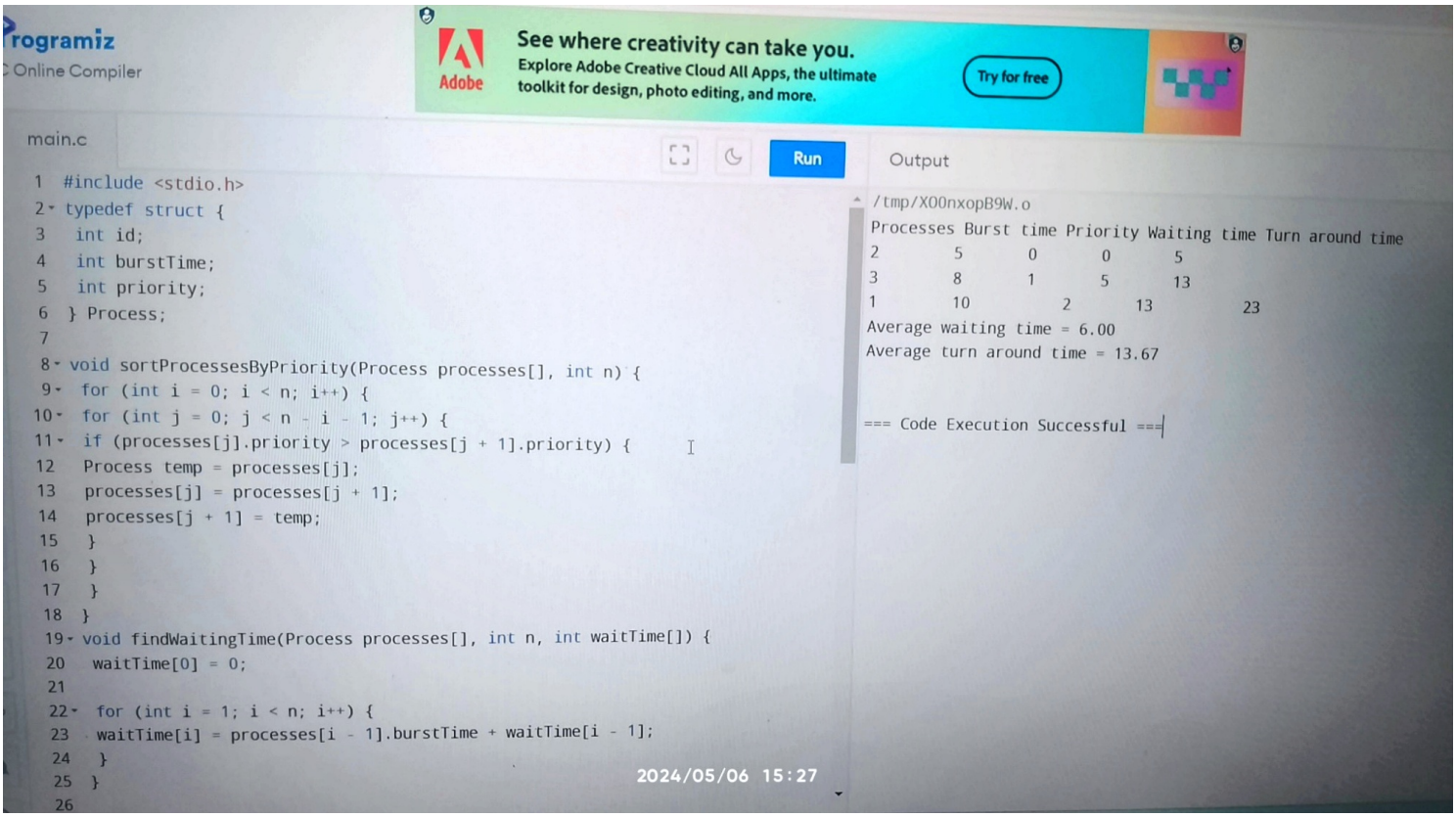
main.c
Run
Output
t += quantum;
rem_bt[i] -= quantum;
} else {
t += rem_bt[i];
p[i].waitingTime = t - p[i].burstTime - p[i].arrivalTime; rem_bt[i] = 0;
}
}
}
if (done == 1)
break;
}
calculateMetrics(p, n);
}
int main() {
Process processes[] = {{1, 6, 2, 1}, {2, 8, 3, 1}, {3, 7, 1, 2}, {4, 3, 4, 3}};
int n = sizeof(processes) / sizeof(processes[0]);
int quantum = 4;
FCFS(processes, n);
/tmp/kF3MsS7LtH.o
FCFS:
Average Waiting Time = 9.50
Average Turnaround Time = 15.50
SJF:
38°C
Hot weather
2024/05/06 15:44
ENG
IN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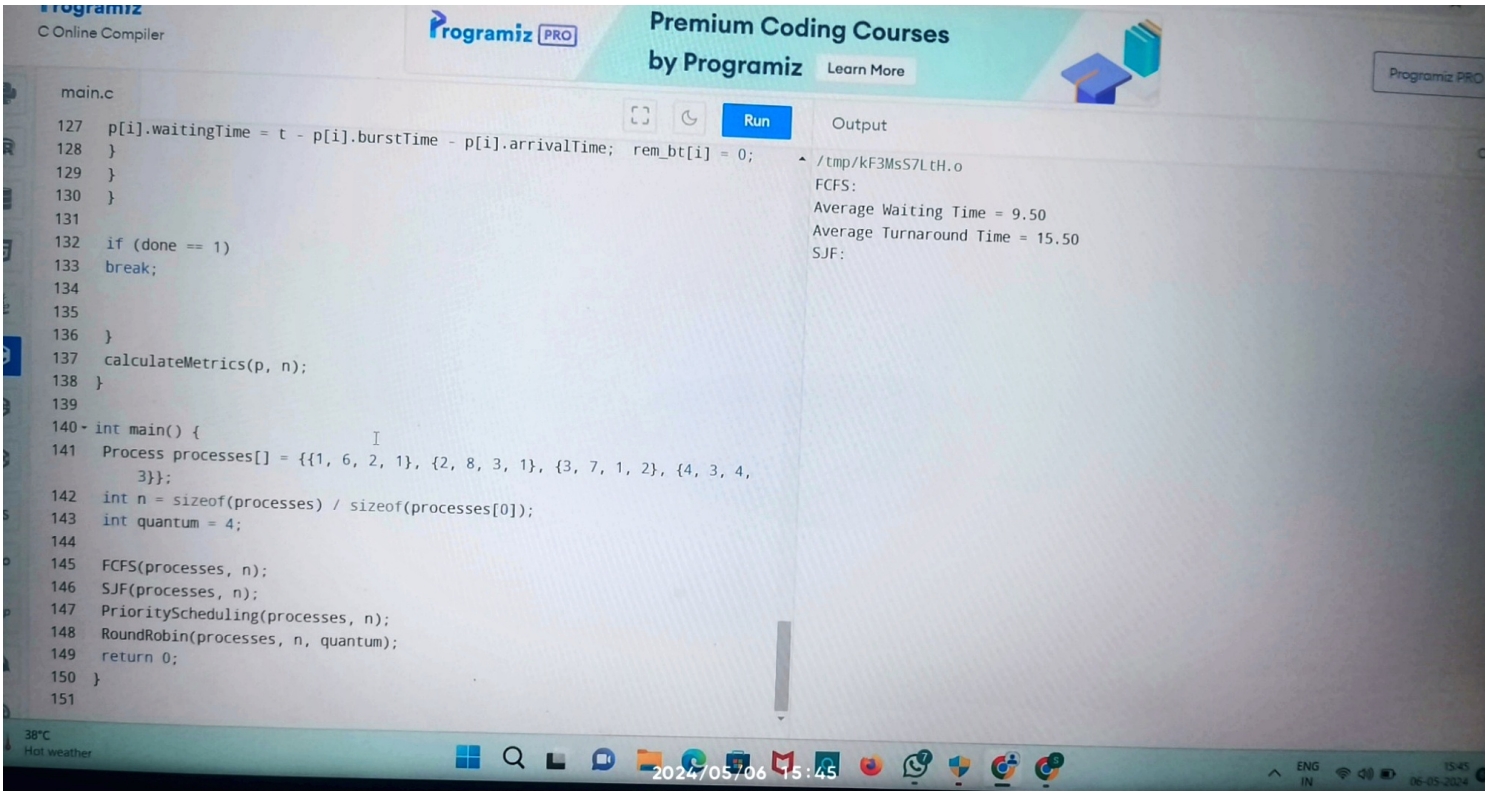
main.c
Run
Output
#include <stdio.h>
typedef struct {
int id;
int burstTime;
int priority;
} Process;
void sortProcessesByPriority(Process processes[], int n) {
for (int i = 0; i < n; i++) {
for (int j = 0; j < n - i - 1; j++) {
if (processes[j].priority > processes[j + 1].priority) {
Process temp = processes[j];
processes[j] = processes[j + 1];
processes[j + 1] = temp;
}
}
}
}
void findWaitingTime(Process processes[], int n, int waitTime[]) {
waitTime[0] = 0;
for (int i = 1; i < n; i++) {
waitTime[i] = processes[i - 1].burstTime + waitTime[i - 1];
}
}
/tmp/XO0nxopB9W.o
Processes Burst time Priority Waiting time Turn around time
2 5 0 0 5
3 8 1 5 13
1 10 2 13 23
Average waiting time = 6.00
Average turn around time = 13.67
=== Code Execution Successful ===
2024/05/06 15:27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main.c
Run
Output
p[i].waitingTime = t - p[i].burstTime - p[i].arrivalTime; rem_bt[i] = 0;
}
}
}
if (done == 1)
break;
}
calculateMetrics(p, n);
}
int main() {
Process processes[] = {{1, 6, 2, 1}, {2, 8, 3, 1}, {3, 7, 1, 2}, {4, 3, 4, 3}};
int n = sizeof(processes) / sizeof(processes[0]);
int quantum = 4;
FCFS(processes, n);
SJF(processes, n);
PriorityScheduling(processes, n);
RoundRobin(processes, n, quantum);
return 0;
}
/tmp/kF3MsS7LtH.o
FCFS:
Average Waiting Time = 9.50
Average Turnaround Time = 15.50
SJF:
38°C
Hot weather
2024/05/06 15:45