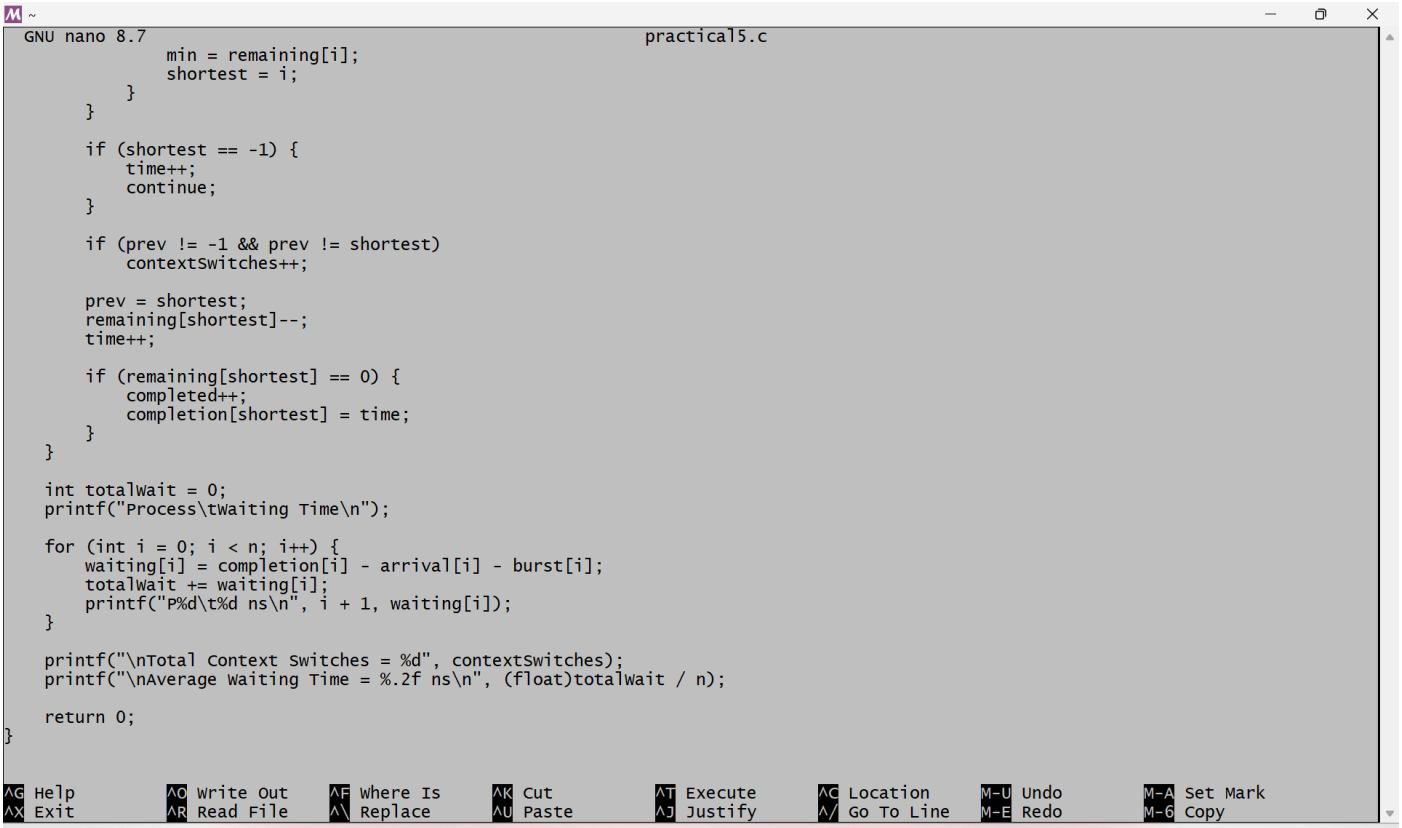
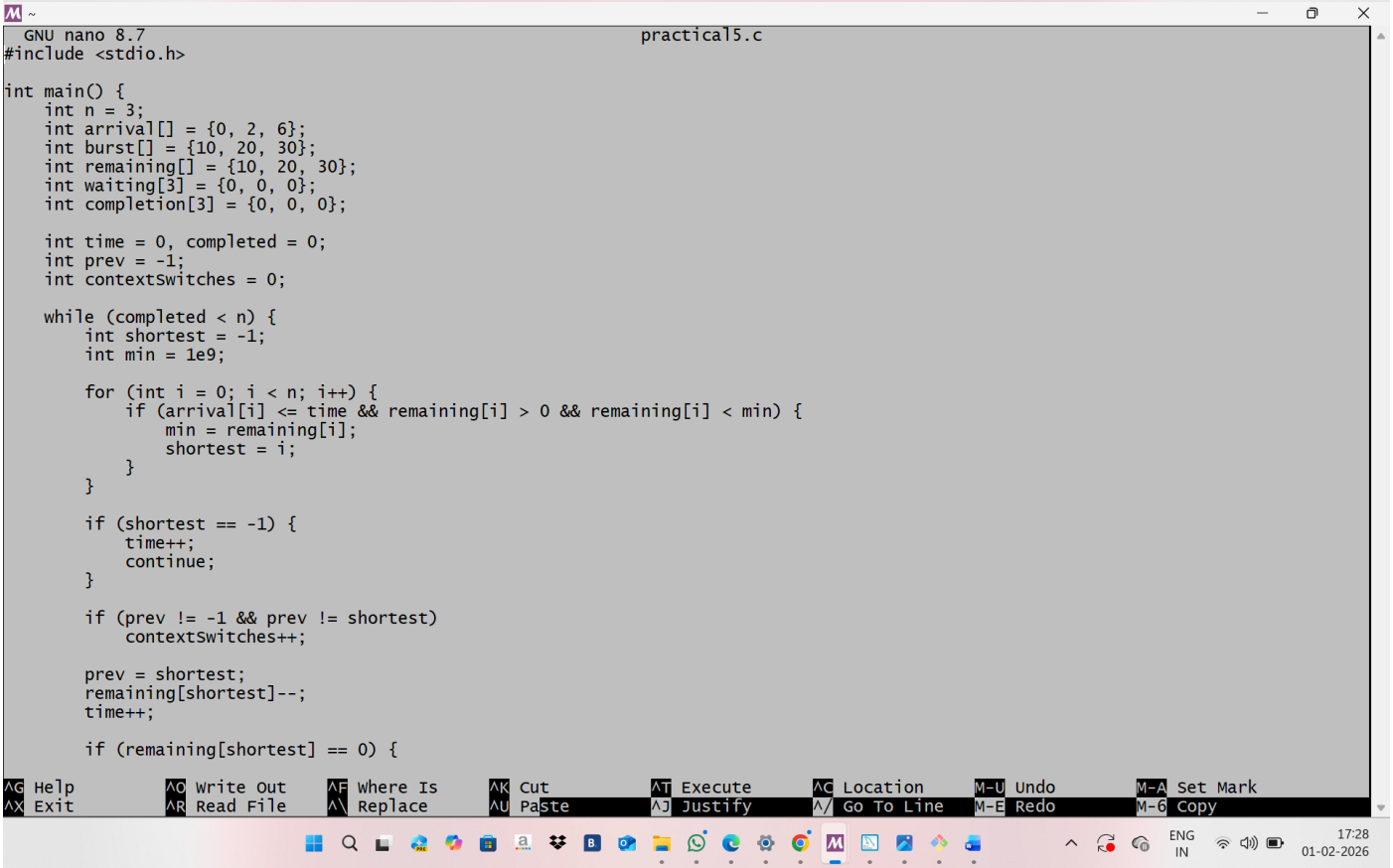
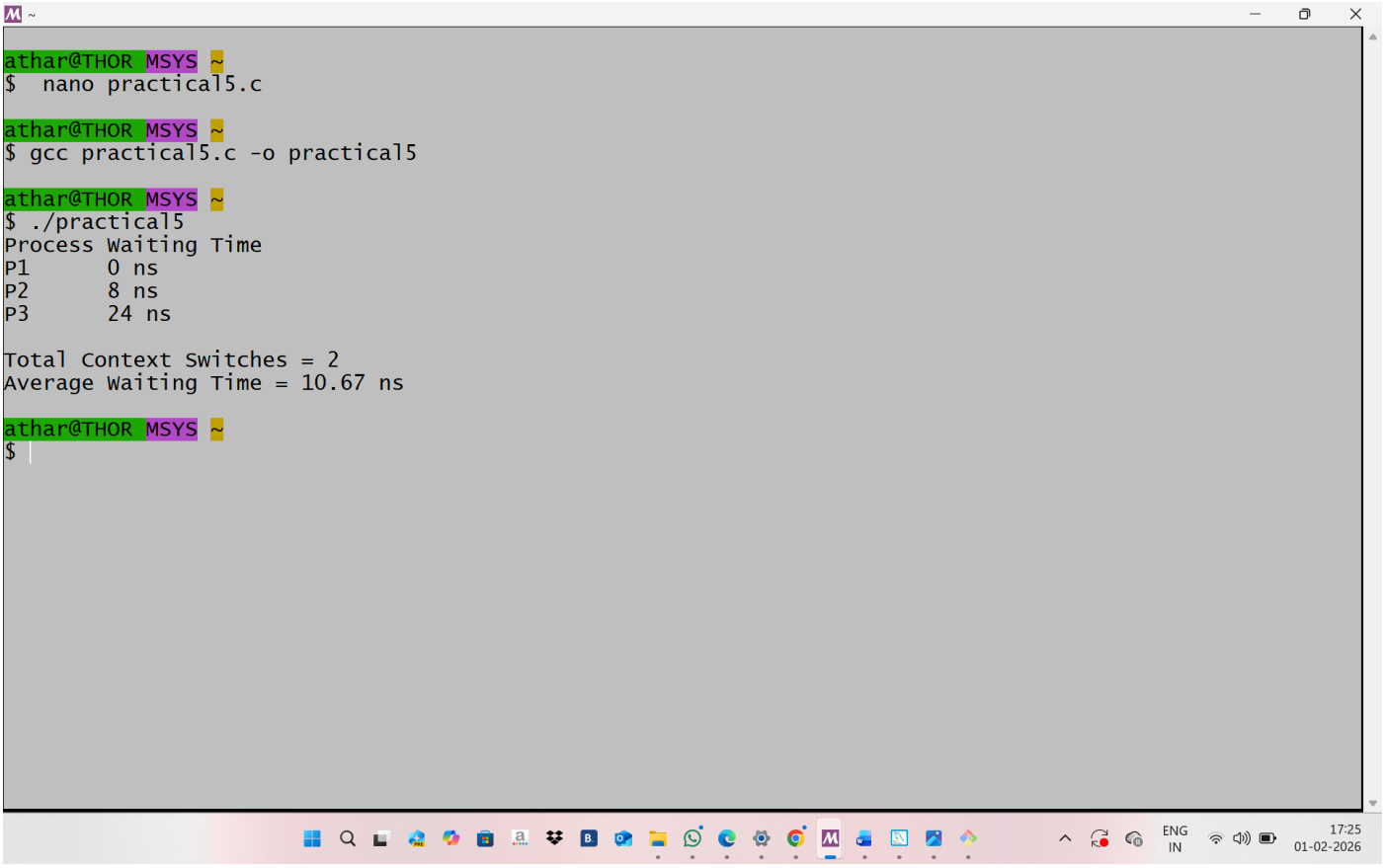


```
  GNU nano 8.7                                          practical5.c
                min = remaining[i];
                shortest = i;
            }
        }

        if (shortest == -1) {
            time++;
            continue;
        }

        if (prev != -1 && prev != shortest)
            contextSwitches++;

        prev = shortest;
        remaining[shortest]--;
        time++;

        if (remaining[shortest] == 0) {
            completed++;
            completion[shortest] = time;
        }
    }

    int totalWait = 0;
    printf("Process\tWaiting Time\n");

    for (int i = 0; i < n; i++) {
        waiting[i] = completion[i] - arrival[i] - burst[i];
        totalWait += waiting[i];
        printf("P%d\t%d ns\n", i + 1, waiting[i]);
    }

    printf("\nTotal Context Switches = %d", contextSwitches);
    printf("\nAverage Waiting Time = %.2f ns\n", (float)totalWait / n);

    return 0;
}


^G Help        ^O Write Out   ^F Where Is    ^K Cut         ^T Execute     ^C Location    M-U Undo       M-A Set Mark
^X Exit        ^R Read File   ^\ Replace     ^U Paste       ^J Justify     ^/ Go To Line  M-E Redo       M-6 Copy
```



```
  GNU nano 8.7                                          practical5.c
#include <stdio.h>

int main() {
    int n = 3;
    int arrival[] = {0, 2, 6};
    int burst[] = {10, 20, 30};
    int remaining[] = {10, 20, 30};
    int waiting[3] = {0, 0, 0};
    int completion[3] = {0, 0, 0};

    int time = 0, completed = 0;
    int prev = -1;
    int contextSwitches = 0;

    while (completed < n) {
        int shortest = -1;
        int min = 1e9;

        for (int i = 0; i < n; i++) {
            if (arrival[i] <= time && remaining[i] > 0 && remaining[i] < min) {
                min = remaining[i];
                shortest = i;
            }
        }

        if (shortest == -1) {
            time++;
            continue;
        }

        if (prev != -1 && prev != shortest)
            contextSwitches++;

        prev = shortest;
        remaining[shortest]--;
        time++;

        if (remaining[shortest] == 0) {


^G Help        ^O Write Out   ^F Where Is    ^K Cut         ^T Execute     ^C Location    M-U Undo       M-A Set Mark
^X Exit        ^R Read File   ^\ Replace     ^U Paste       ^J Justify     ^/ Go To Line  M-E Redo       M-6 Copy
```


athar@THOR MSYS ~
$ nano practical5.c
athar@THOR MSYS ~
$ gcc practical5.c -o practical5
athar@THOR MSYS ~
$ ./practical5
Process Waiting Time
P1 0 ns
P2 8 ns
P3 24 ns
Total Context Switches = 2
Average Waiting Time = 10.67 ns
athar@THOR MSYS ~
$
ENG
IN
17:25
01-02-2026