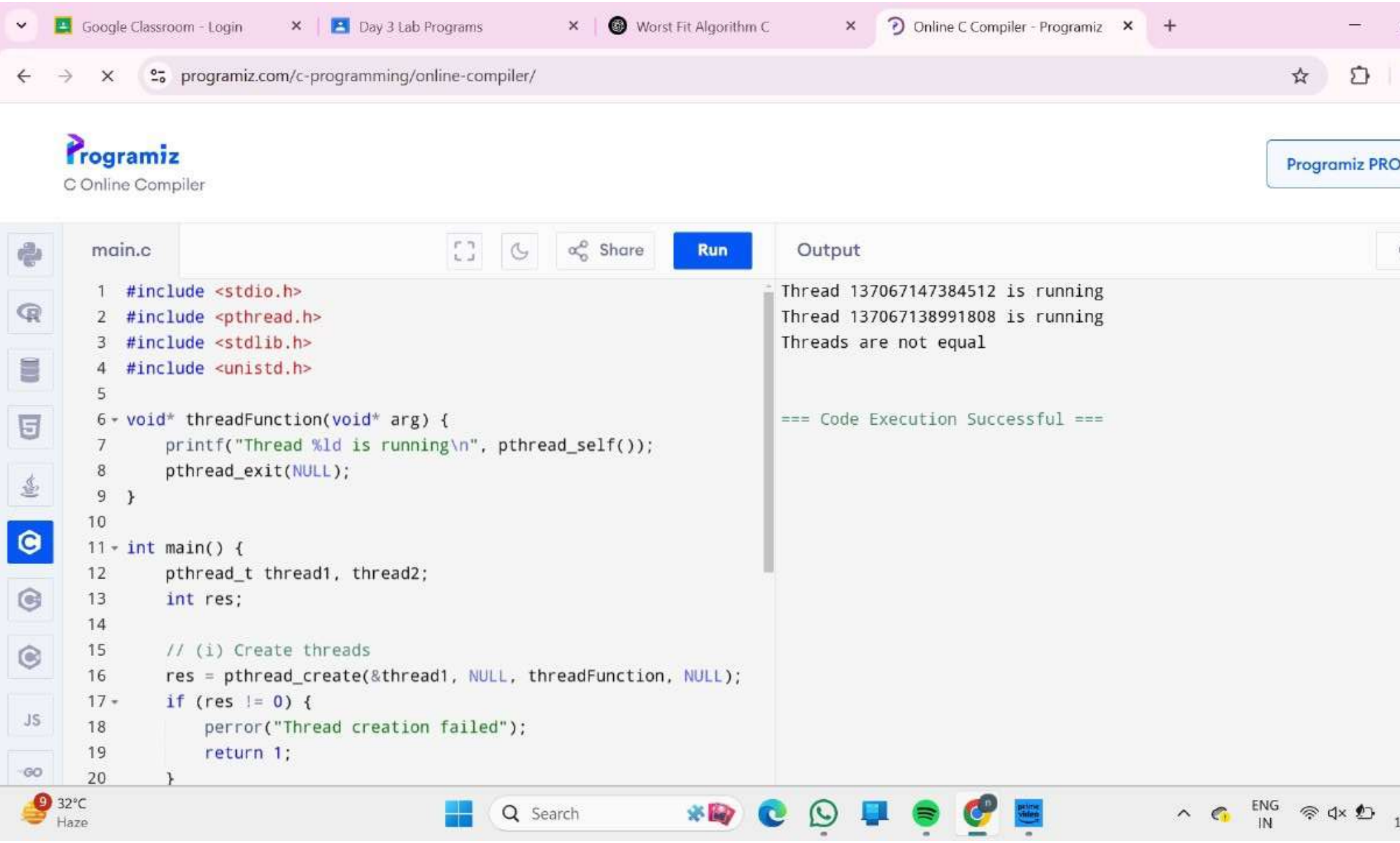
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#include <stdio.h>
#include <pthread.h>
#include <stdlib.h>
#include <unistd.h>
void* threadFunction(void* arg) {
printf("Thread %ld is running\n", pthread_self());
pthread_exit(NULL);
}
int main() {
pthread_t thread1, thread2;
int res;
// (i) Create threads
res = pthread_create(&thread1, NULL, threadFunction, NULL);
if (res != 0) {
perror("Thread creation failed");
return 1;
}
Thread 137067147384512 is running
Thread 137067138991808 is running
Threads are not equal
=== Code Execution Successful ===
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```c
#include <stdio.h>
#include <pthread.h>
#include <semaphore.h>
#include <unistd.h>

#define N 5 // Number of philosophers
#define THINKING 0
#define HUNGRY 1
#define EATING 2

sem_t mutex;
sem_t S[N];
int state[N];
int phil[N] = {0, 1, 2, 3, 4};

void test(int philID) {
    if (state[philID] == HUNGRY && state[(philID + 4) % N] !=
        EATING && state[(philID + 1) % N] != EATING) {
        state[philID] = EATING;
        printf("Philosopher %d is Eating\n", philID + 1);
```

```
Philosopher 1 is Thinking
Philosopher 2 is Thinking
Philosopher 3 is Thinking
Philosopher 4 is Thinking
Philosopher 5 is Thinking
Philosopher 1 is Hungry
Philosopher 1 is Eating
```

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```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

void grep(const char *filename, const char *searchTerm) {
    FILE *file = fopen(filename, "r");
    if (file == NULL) {
        perror("Error opening file");
        return;
    }

    char line[1024];
    int lineNumber = 1;
    while (fgets(line, sizeof(line), file)) {
        if (strstr(line, searchTerm)) {
            printf("%s:%d: %s", filename, lineNumber, line);
        }
        lineNumber++;
    }

```

Output

```
Usage: /tmp/ub09VeE5Sd/main.o <search_term> <file>


=== Code Exited With Errors ===
```

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```c
#include <stdio.h>
#include <dirent.h>

int main(int argc, char *argv[]) {
    DIR *dir;
    struct dirent *entry;
    const char *path = (argc > 1) ? argv[1] : ".";

    dir = opendir(path);
    if (dir == NULL) {
        perror("Error opening directory");
        return 1;
    }

    while ((entry = readdir(dir)) != NULL) {
        printf("%s\n", entry->d_name);
    }

    closedir(dir);
    return 0;
```

Output

```
.
..
.bash_logout
.bashrc
.profile


=== Code Execution Successful ===
```

English (United States)
English (India)

To switch input methods, press Windows key + s

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```
12      struct stat fileStat;
13      DIR *dir;
14      struct dirent *entry;
15
16      // Creating and opening a file
17      fd = open("testfile.txt", O_CREAT | O_WRONLY, 0644);
18      if (fd < 0) {
19          perror("Error opening file");
20          return 1;
21      }
22
23      // Writing to the file
24      write(fd, text, strlen(text));
25      close(fd);
26
27      // Reopening file for reading
28      fd = open("testfile.txt", O_RDONLY);
29      if (fd < 0) {
30          perror("Error opening file");
31          return 1;
```

Output

```
Error opening file: Permission denied


=== Code Exited With Errors ===
```

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```c
#include <stdio.h>
#include <fcntl.h>
#include <unistd.h>
#include <string.h>
#include <sys/stat.h>
#include <dirent.h>

int main() {
    int fd;
    char buffer[100];
    char *text = "Hello, this is a test file.";
    struct stat fileStat;
    DIR *dir;
    struct dirent *entry;

    // Creating and opening a file
    fd = open("testfile.txt", O_CREAT | O_WRONLY, 0644);
    if (fd < 0) {
        perror("Error opening file");
        return 1;
```

Output

```
Error opening file: Permission denied


=== Code Exited With Errors ===
```

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#include <fcntl.h>
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#include <string.h>

int main() {
    int fd;
    char buffer[100];
    char *text = "Hello, this is a test file.";

    // Creating and opening a file
    fd = open("testfile.txt", O_CREAT | O_WRONLY, 0644);
    if (fd < 0) {
        perror("Error opening file");
        return 1;
    }

    // Writing to the file
    write(fd, text, strlen(text));
    close(fd);
```

Output

```
Error opening file: Permission denied


=== Code Exited With Errors ===
```

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```c
#include <stdio.h>

void firstFit(int blockSize[], int m, int processSize[], int n)
    {
    int allocation[n];

    for (int i = 0; i < n; i++) {
        allocation[i] = -1;
    }

    for (int i = 0; i < n; i++) {
        for (int j = 0; j < m; j++) {
            if (blockSize[j] >= processSize[i]) {
                allocation[i] = j;
                blockSize[j] -= processSize[i];
                break;
            }
        }
    }

```

Output

```
Process No. Process Size    Block No.
1       212     2
2       417     5
3       112     2
4       426     Not Allocated


=== Code Execution Successful ===
```

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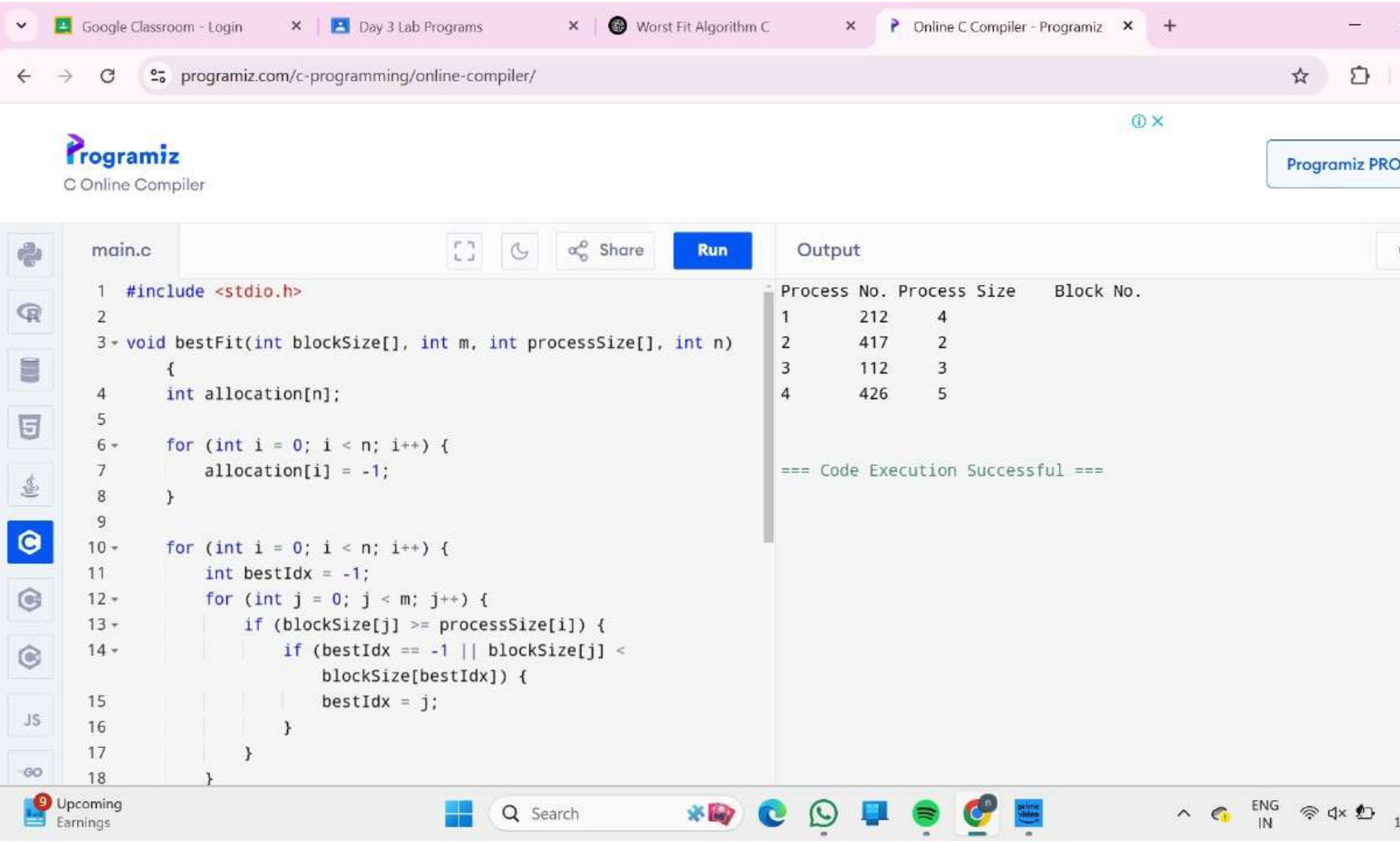
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Output
#include <stdio.h>
void bestFit(int blockSize[], int m, int processSize[], int n)
{
int allocation[n];
for (int i = 0; i < n; i++) {
allocation[i] = -1;
}
for (int i = 0; i < n; i++) {
int bestIdx = -1;
for (int j = 0; j < m; j++) {
if (blockSize[j] >= processSize[i]) {
if (bestIdx == -1 || blockSize[j] <
blockSize[bestIdx]) {
bestIdx = j;
}
}
}
Process No. Process Size Block No.
1 212 4
2 417 2
3 112 3
4 426 5
=== Code Execution Successful ===
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Share | Run

```c
#include <stdio.h>

void worstFit(int blockSize[], int m, int processSize[], int n)
    {
    int allocation[n];

    for (int i = 0; i < n; i++) {
        allocation[i] = -1;
    }

    for (int i = 0; i < n; i++) {
        int worstIdx = -1;
        for (int j = 0; j < m; j++) {
            if (blockSize[j] >= processSize[i]) {
                if (worstIdx == -1 || blockSize[j] >
                    blockSize[worstIdx]) {
                    worstIdx = j;
                }
            }
        }
```

Output

```
Process No. Process Size    Block No.
1       212     5
2       417     2
3       112     5
4       426     Not Allocated


=== Code Execution Successful ===
```

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-0.55%

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