

**NATIONAL TEXTILE**

**UNIVERSITY**

DEPARTMENT OF COMPUTER SCIENCE

**SUBMITTED BY:**

Eman Faisal 23-NTU-CS-1149

**SECTION SE: 5th (A)**

**Operating System**

**SUBMITTED TO:**

Sir Nasir Mahmood

**SUBMISSION DATE:** 25/9/25

**Lab 4**

**TASK1:**

**CODE:**#include <stdio.h>

#include <pthread.h>

#include <unistd.h>

// Thread function - this will run in the new thread

void\* thread\_function(void\* arg) {

printf("Hello from the new thread!\n");

printf("Thread ID: %lu\n", pthread\_self());

return NULL;

}

int main() {

pthread\_t thread\_id;

printf("Main thread starting...\n");

printf("Main Thread ID: %lu\n", pthread\_self());

// Create a new thread

pthread\_create(&thread\_id, NULL, thread\_function, NULL);

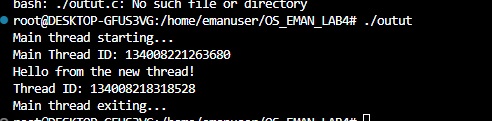
// Wait for the thread to finish

pthread\_join(thread\_id, NULL);

printf("Main thread exiting...\n");

return 0;

}

**Output:  
**

**TASK2: Passing arguments in a thread**

Task2:  
#include <stdio.h>

#include <pthread.h>

void\* print\_number(void\* arg) {

// We know that we've passed an integer pointer

    int num = \*(int\*)arg; // Cast void\* back to int\*

    printf("Thread received number: %d\n", num);

    printf("Square: %d\n", num \* num);

return NULL;

}

int main() {

    pthread\_t thread\_id;

    int number = 42;

    printf("Creating thread with argument: %d\n", number);

// Pass address of 'number' to thread

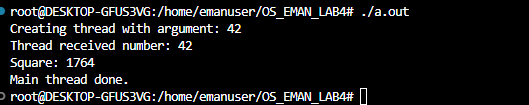
    pthread\_create(&thread\_id, NULL, print\_number, &number);

    pthread\_join(thread\_id, NULL);

    printf("Main thread done.\n");

    return 0;

}

**Output:**