**LAB # 08**

***Threads Creation and Execution***



**Spring 2024**

**CSE-204L**

**Operating System Lab**

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**Registration No.: 22PWCSE2165**

**Class Section: B**

“On my honor, as student of University of Engineering and Technology, I have neither given nor received unauthorized assistance on this academic work.”

Student Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Submitted to:

**Engr. Abdullah Hamid**

16/05/ 2024.

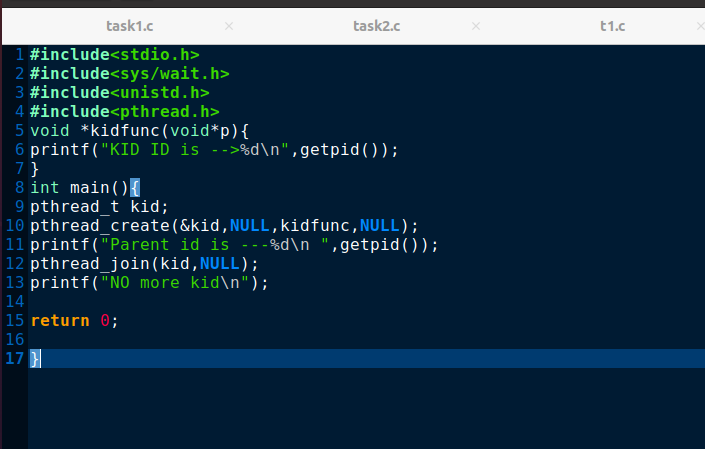
Department of Computer Systems Engineering

University of Engineering and Technology, Peshawar

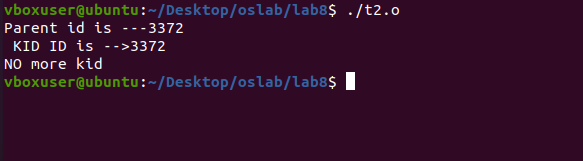
***Example#1:***

***THREAD EXECUTION AND TERMINATION:***

***Code:***



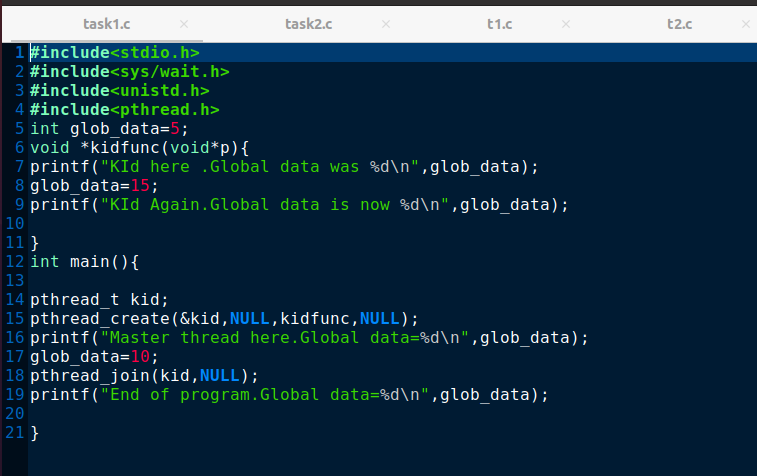
***Output:***



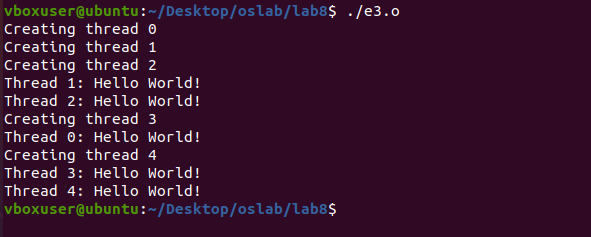
***Example#2:***

***Global Data***

***Code:***

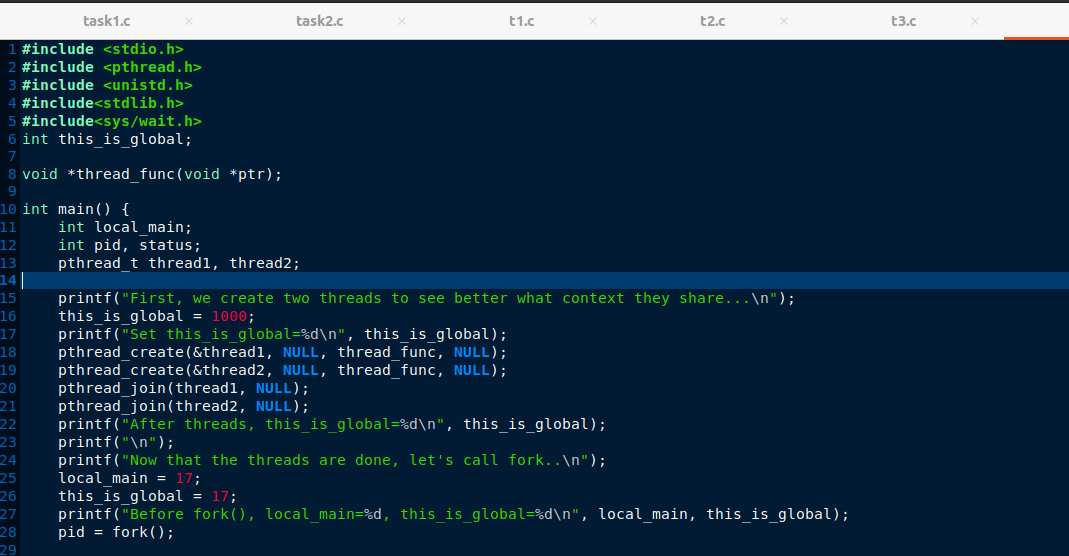


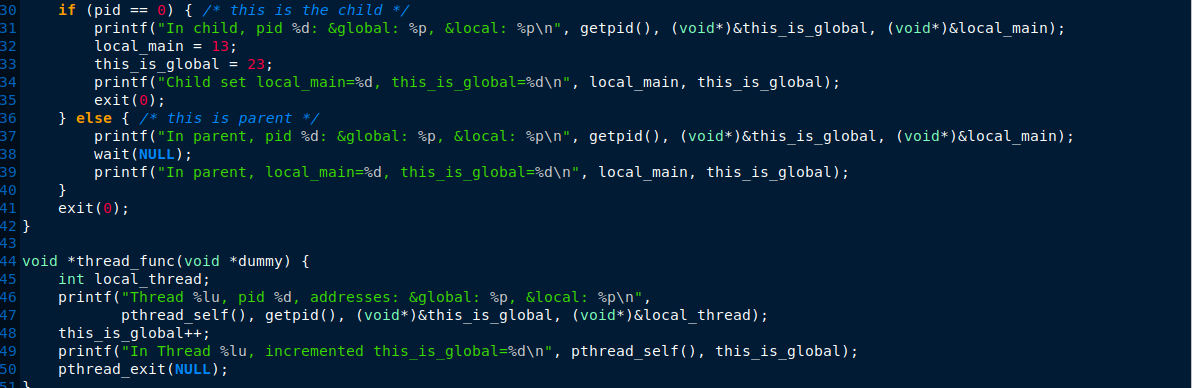
***Output:***

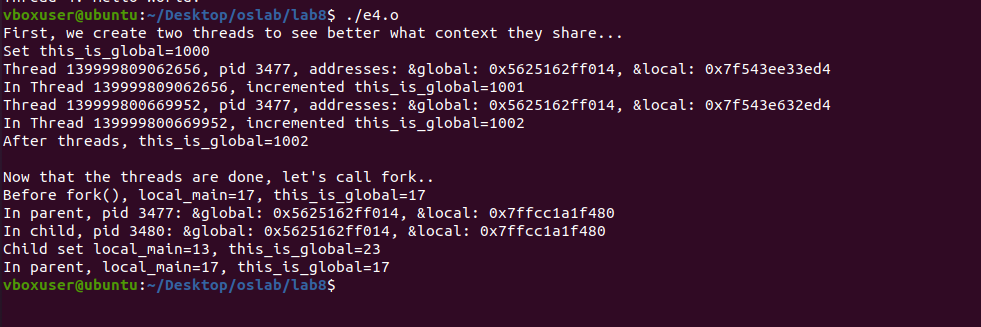


***Example#4:***

***Difference between process and Thread***

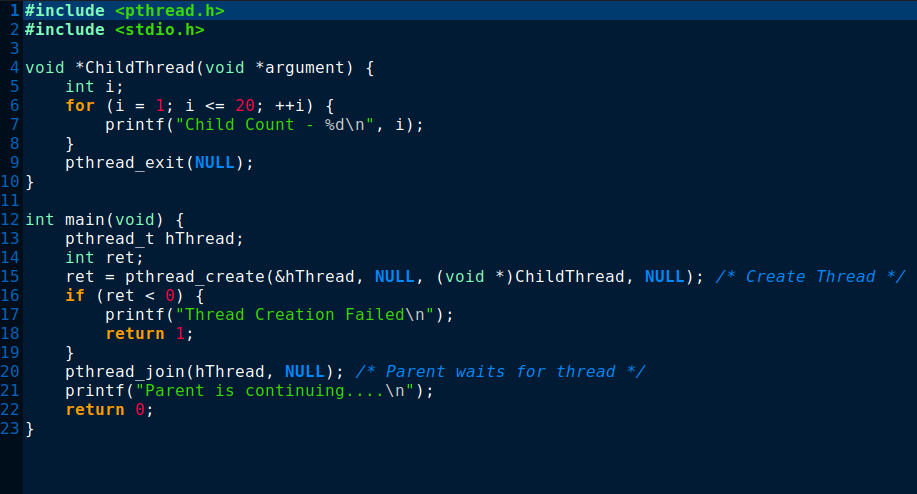
***Code:***



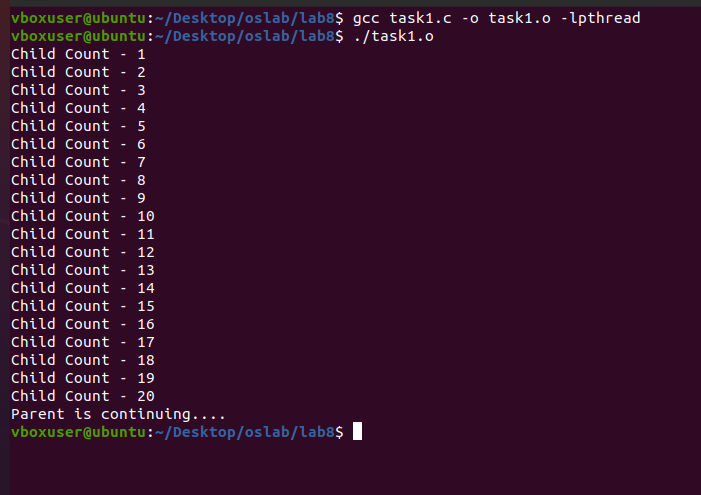
***Output:***

***Problem#1:***

The following Box #1 program demonstrates a simple program where the main thread creates another thread to print out the numbers from 1 to 20. The main thread waits till the child thread finishes

***Code:***

***Output:***



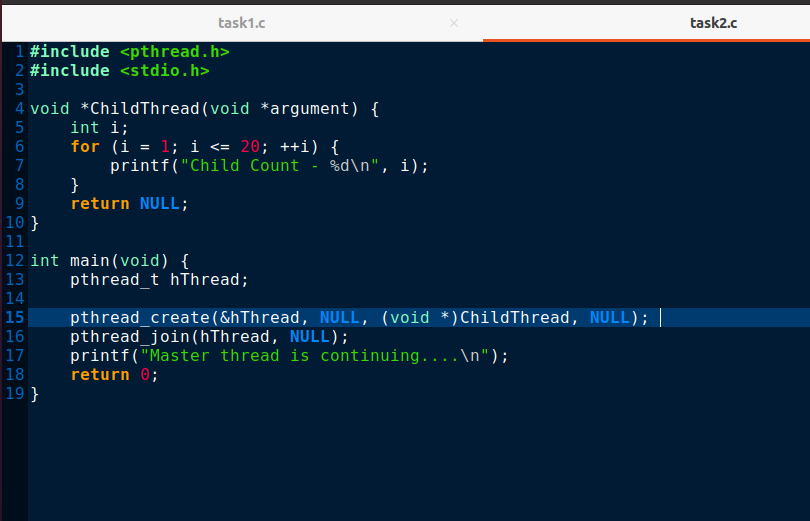
***Analysis:***

As the main process creates a thread which executes a function which simply prints the 1-20 numbers, Parent process waits due to pthread\_join for thread to finish its execution, and then executes its line.

***Problem#2:***

In the **Box #2** modify the above **Box #1** program such that the main program passes the **count** as argument to the child thread function and the child thread function prints that many **count** print statements.

***Code:***



***Output:***

A screenshot of a computer

Description automatically generated

***Analysis:***

As the main process creates a thread and passes the count variable as a argument,which executes a function which simply prints the 1 to the count, Parent process waits due to pthread\_join for thread to finish its execution.

LAB ASSESSMENT RUBRICS

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Marking  Criteria | Exceeds expectation (2.5) | Meets expectation (1.5) | Does not meet expectation  (0) | Score |
| 1. Correctness | Program compiles (no errors and no warnings).Program always works correctly and meets the specification(s). Completed between 81-100% of the requirements. | Program compiles (no errors and some warnings). Some details of the program specification are violated, program functions incorrectly for some inputs. Completed between 41- 80% of the requirements. | Program fails to or compile with lots of warnings. Program only functions correctly in very limited cases or not at all. Completed less than 40% of the requirements. |  |
| 2. Delivery | Delivered on time, and in correct | Not delivered on time, or slightly incorrect format. | Not delivered on time or not in correct format. |  |
| 3. Coding  Standards | Properindentation, whitespace, line length, wrapping, comments and  references. | Missing some of whitespace, line length, wrapping, comments or references. | Poor use of whitespace, line length, wrapping, comments and references. |  |
| 4.Presentation of document | Includes name, date, anassignment title. Task titles, objectives, output screenshots included and good formatting and excellently organized. | Includes name, date, and assignment title. Task titles, objectives, output screenshots included and good formatting. | No name, date, or assignment title included. No task titles, no objectives, no output screenshots, poor formatting. |  |

Instructor: Name: Engr. Abdullah Hamid Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_