

Program2C

sThread.cpp Report

Overview of the assignment sThread.cpp:

The assignment consists a multithreading system with macros and function helps thread management and context switching using `setjmp()`, `longjmp()`, and other functions. The objective of the assignment it to explore multithreading by analyzing how systems calls can save a thread's environment before transitioning to another thread for execution.

This assignment allows us to get familiar with the thread library functions and macros, which can improve our understating of multithreaded processes, highlight the interconnection of thread execution with the CPU and basic concepts.

Figure 1 – Testing and Results

```

tjcaole@csslab9: ~/2A
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help

Quick connect...
/home/.NETID/tjcaole
Name
.cache
.gnupg
.vscode-server
2A
hw1
Lab 1
Lab 2
Program1J
.q.swp
.bash_history
.bash_logout
.bashrc
.jack.txt.swn
.jack.txt.swo
.profile
.viminfo
.wget-hsts
a.out
jack.txt
processes
Processes.cpp

Follow terminal folder

28/01/2024 16:45:51 /home/mobaxterm ssh tjcaole@csslab9
Please login with your UW NetID password.
X11 forwarding request failed on channel 0
UW Bothell's remote csslab

Visit https://csswiki.uwb.edu for useful lab information.
For lab support questions, please email UWBIT@uw.edu

Check system live resources using your web browser
by navigating to hostname.uwb.edu:9090 e.g. csslab14.uwb.edu:9090

Login with your UW NetID and password.

Last login: Sun Jan 28 14:56:23 2024 from 10.102.93.161
tjcaole@csslab9:~$ cd 2A
tjcaole@csslab9:~/2A$ g++ driver.cpp
tjcaole@csslab9:~/2A$ ./a.out
scheduler: initialized
func1: Bothell 0
func1: Bothell 1
func1: Bothell 2
func1: Bothell 3
func1: Bothell 4
func2: Seattle 0
func2: Seattle 1
func2: Seattle 2
func2: Seattle 3
func2: Seattle 4
func3: Tacoma 0
func3: Tacoma 1
func3: Tacoma 2
func3: Tacoma 3
func3: Tacoma 4
func1: Bothell 5
func1: Bothell 6
func1: Bothell 7
func1: Bothell 8
func1: Bothell 9
func2: Seattle 5
func2: Seattle 6
func2: Seattle 7
func2: Seattle 8
func2: Seattle 9
func3: Tacoma 5
func3: Tacoma 6
func3: Tacoma 7
func3: Tacoma 8
func3: Tacoma 9
scheduler: no more threads to schedule
tjcaole@csslab9:~/2A$

```

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Figure 2 – Stack Layer

