컴퓨터학부 20142468 허경영

1. 소스코드

#include <stdio.h>

#include <stdlib.h>

#include <unistd.h>

#include <errno.h>

#include <sys/time.h>

#include <pthread.h>

pthread\_mutex\_t lock = PTHREAD\_MUTEX\_INITIALIZER; // 정적 초기화

pthread\_cond\_t cond = PTHREAD\_COND\_INITIALIZER;

int glo\_val1 = 1, glo\_val2 = 2;

void \*ssu\_thread1(void \*arg);

void \*ssu\_thread2(void \*arg);

int main(void){

pthread\_t tid1, tid2;

pthread\_create(&tid1, NULL, ssu\_thread1, NULL);

pthread\_create(&tid2, NULL, ssu\_thread2, NULL); //쓰레드 생성

pthread\_join(tid1, NULL);

pthread\_join(tid2, NULL); // 쓰레드 종료 기다림

pthread\_mutex\_destroy(&lock); // 종료함수

pthread\_cond\_destroy(&cond);

exit(0);

}

void \*ssu\_thread1(void \*arg) {

sleep(1);

glo\_val1 = 2;

glo\_val2 = 1;

if (glo\_val1 > glo\_val2)

pthread\_cond\_broadcast(&cond); // 브로드캐스트

printf("ssu\_thread1 end\n");

return NULL;

}

void \*ssu\_thread2(void \*arg) {

struct timespec timeout;

struct timeval now;

pthread\_mutex\_lock(&lock); // 뮤텍스 락

gettimeofday(&now, NULL);

timeout.tv\_sec = now.tv\_sec + 5;

timeout.tv\_nsec = now.tv\_usec \* 1000;

if (glo\_val1 <= glo\_val2) {

printf("ssu\_thread2 sleep\n");

if (pthread\_cond\_timedwait(&cond, &lock, &timeout) == ETIMEDOUT)

printf("timeout\n");

else

printf("glo\_val1 = %d, glo\_val = %d\n", glo\_val1, glo\_val2);

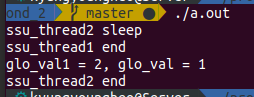
}

pthread\_mutex\_unlock(&lock); // 뮤텍스 언락

printf("ssu\_thread2 end\n");

return NULL;

}

2. 실행결과