Northern Michigan University (Marquette Co, MI)

CS426-01-26F: Operating Systems (Andrew A. Poe) Name: _____
Quiz 6 Friday 23 October 2026 3:00 P.M. EDT

Time: 15 minutes.

Write a program C using only low-level system calls to create a thread. There is a variable called ctr initialized to zero. The new thread and main thread take turns incrementing the variable by 1 (the new thread first) until ctr reaches 100. The threads then terminate, but the new thread should terminate first.

```
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#include <pthread.h>
#include <unistd.h>
#include <fcntl.h>

int ctr = 0;

void *thread_method (void *arg);

int main (int argc, char **argv) {

 pthread_t th;
 void *result;
 pthread_create (&th,NULL,thread_method,NULL);
 buf = readstring (0,&len);
 while (ctr < 100)
  if (ctr % 2 != 0)
   ctr++;
 pthread_join (th,&result);
 return 0;
}


void *thread_method (void *arg) {

 while (ctr < 100)
  if (ctr % 2 == 0)
   ctr++;
 return NULL;
}
```