

CMSC 216 Quiz 4 Worksheet

The next quiz for the course will be on Thu, Aug 8. The following list provides additional information about the quiz:

- The quiz will be a written quiz (no computer).
- Closed book, closed notes quiz.
- Answers must be neat and legible.
- Quiz instructions can be found at <http://www.cs.umd.edu/~nelson/classes/utilities/examRules.html>
- Make sure you know your section number and your TA's name.

Solutions to the exercises below will not be provided, but you are welcome to discuss your solutions with the TA or instructor during office hours.

Exercises

1. A thread ID and stack are part of a thread context. What other elements are part of the context?
2. What are Posix threads?
3. Why do we need to reap a thread?
4. Write a program that prints the messages "Fear the turtle", "UMCP Rocks", "Testudo Forever" using three threads. Each thread will print the messages 100 times.
5. Write a program that computes the Fibonacci of a number using two threads (main + two threads). One thread will compute $\text{Fib}(n - 1)$ and the second $\text{Fib}(n - 2)$. The main thread will compute the sum.
6. Name four ways in which threads can be terminated.

NOTE: The following cheat sheet will be provided with the quiz:

```
int pthread_create(pthread_t *tid, pthread_attr_t *attr, void *(*func)(void *), void *arg);
int pthread_join(pthread_t tid, void **val);
void pthread_exit(void *val);
int pthread_cancel(pthread_t tid);
pthread_t pthread_self(void);
```