

CpSc 360, Section 2, Fall 2008, Quiz #3

Name: _____ Clemson ID: _____

Question #1 (20 points):

Are the following statements **true** or **false**?

1. TFTP can only be used with the UDP protocol. (FALSE)
2. The last TFTP data message might contain 0 bytes of data. (TRUE)
3. Any error condition will cause the termination of TFTP communication (FALSE)
4. HTTP protocol is a stateless protocol used for communication between web servers and web clients. (TRUE)
5. The “well known” TCP port for HTTP servers is port 80. (TRUE)
6. HTTP protocol is a transport layer protocol. (FALSE)
7. Immediately after returning from the system call fork(), the child process contains the same set of variables as the parent process and the same variable in both the parent and child processes contains the same value. (FALSE)
8. If you don’t call wait() in the parent process, the child process will stay as a “zombie” in the operating system forever. (FALSE)
9. If a process exec() a program, the entire address space of the calling process will be overwritten by the information related to the new program. (TRUE)
10. Execve() returns 0 on success and -1 when it encounters an error. (FALSE)

Question #2 (20 points):

How do the parent and child processes get the ID of the child process created by fork()?

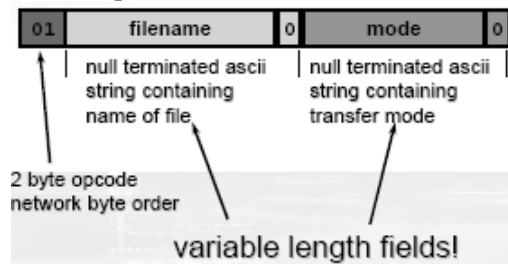
The parent process gets the ID of the child process from the return of fork().

The child process calls getpid() to get its own process ID.

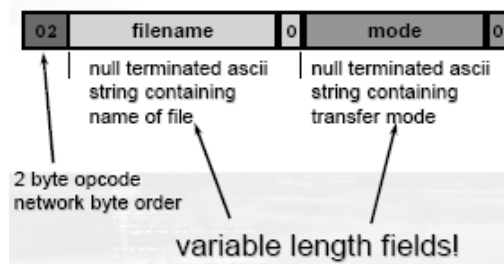
Question #3 (20 points):

Use diagram to describe 5 different message packets used in the TFTP protocol.

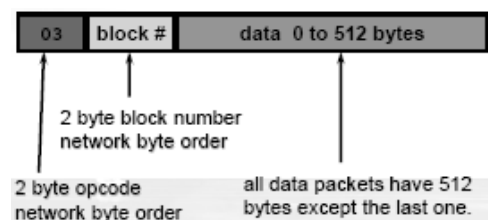
Read Request:



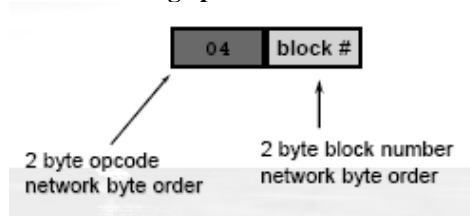
Write Request:



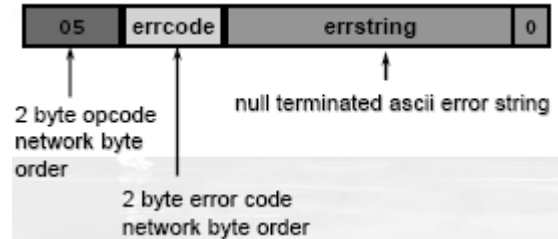
Data Packet:



Acknowledge packet:



Error Packet:



Question #4 (20 points):

Describe how the client and server interact in TFTP read request and write request respectively.

Read Request:

- Client sends RRQ
- Server sends back data chunk #1
- Client acks chunk #1
- Server sends data chunk #2
- ...

Write Request:

- Client sends WRQ
- Server sends back ack #0
- Client data chunk #1 (the first chunk!)
- Server acks data chunk #1
- ...

Question #5 (20 points):

Describe the formats of HTTP request and HTTP response respectively.

HTTP Request:

- Lines of text (ASCII).
- Lines end with CRLF “\r\n”.
- First line is called “Request-Line”.
- Followed by Request Headers.
- Followed by a CRLF.
- Followed by Content if it is a POST.

HTTP Response includes:

- ASCII Status Line
- Headers Section
- Followed by a CRLF
- Content can be anything (not just text), typically an HTML document or some kind of image.