# **CSSE2310: 2015 mid-sem[4] exam answers**

## [**UQAttic**](http://uqattic.net)

## **Get more out of your study time. Join UQAttic's revision chat.**

#### [**Other exam papers**](https://drive.google.com/folderview?id=0B6_D4T6LJ-uwYzY1YWMzNjYtMzUyZC00OTEyLWJlMjktOGExYWUwOTc4NDE3&usp=drive_web&ddrp=1#)

### Please **contribute** to these documents.

If you're looking for an effective way to familiarise yourself with the course material, you can't go past collaborating with fellow students. We have laboured to put these up, and so at the very least point out where you think we are wrong!

You'll get more out of the course, you'll do better in the exam, and other students will benefit from your input as well.

To get editing permissions, simply go to the [chatroom](http://uqattic.net) and provide us with your Google Account address.

### **Style.**

### Type answers in blue beneath each question.

### If you're unsure of your answer, highlight your answer text then hit Ctrl+Alt+M to create a comment beside the text. Once you're satisfied with the answer, click the "Resolve" button on the comment.

### If you want some extra explanation from someone else on their answer, highlight the other person's answer and repeat the procedure above.

### **Communicate.**

### Head over to [uqattic.net](http://uqattic.net/) and click "Chat Now!". You'll find a chatroom full of students just like you. Talk about a revision document (like this one) or swap prep tips. If you have your own IRC client, point it to irc.uqattic.net, port 6667, channel #attic.

**Note: This was for the 4th paper, other released papers may have different answers.**

1. Which of the following subversion commands do not modify the working copy?
   1. Revert
   2. checkout
   3. update
   4. log

d. all other commands have the possibility of changing the working copy.

1. What does TLB stand for?
   1. The little bison - all round cool guy
   2. Translation lookaside buffer
   3. Transition lookaside buffer
   4. Translation link builder

b.

1. Which of the following will allow you to run commands from the /tmp directory while in any directory on the system? Eg: by typing mycommand instead of /tmp/mycommand
   1. PATH=/tmp:PATH
   2. sudo /tmp
   3. chmod a+x /tmp
   4. export PATH=$PATH:/tmp

d

1. Suppose you have a file list which contains a list of unique names (space separated). Which of the following commands will create a directory for each name in the list?
   1. for name in ‘cat list’; do mkdir $name; done
   2. for name in `cat list`; do mkdir $name; done
   3. for name in “cat list’; do mkdir $name; done
   4. cat list | mkdir

b.

1. Which of the following events can a user program be directly aware of?
   1. interrupts, traps
   2. interrupts, exceptions
   3. exceptions, system calls
   4. system calls, traps

Tentative reasoning here. A user program can not be directly aware of an interrupt, so it can’t be a or b. A trap (which is a kind of exception) allows execution of a program or task to be continued without loss of program continuity and is reported immediately following the execution of the trapping instruction. A user program can be indirectly aware of other exceptions, eg\ faults and aborts however since a trap reports immediately following the execution of the trapping instruction, answer is d I think.

d

1. After the following code has executed, what is the value of a?  
     
   int a=17, b=11, c=4;  
   a^=b|c  
   1. 0
   2. 15
   3. 26
   4. 30

d

1. Which of the following can not result in an executable program?
   1. gcc -g fred.c
   2. gcc -g fred.c -c -o fred
   3. gcc -o fred fred.c
   4. gcc -o fred fred.c -lm

b

1. Consider the following code  
     
   char\* p, \*q, \*r, \*s;  
   p=malloc(sizeof(char)\*50);  
   q=p+10;  
   r=”cows”;  
   s=malloc(sizeof(char));  
     
   which of the variables need to be free()d in order to prevent memory leaks?
   1. p, s
   2. p, r, s
   3. q, s
   4. p, q, r, s

a. these are the only variables not automatically set up ie they are allocated in some way

1. Suppose a file f contains lines like this  
     
   ================================  
   x| 1 | uqjfenw1 | x=1, y=2  
   ================================  
   x| 4 | s123456 | x=4, y=17  
   ================================  
   x| 2 | s123456 | x=6, y=9  
   ================================  
     
   which of the following commands will output the largest value from the second column in f?
   1. cat f | grep -v === | cut -f2 -d | | sort -g | tail -1
   2. grep -v === f | cut -f2 -d\| | sort -g | tail -1
   3. grep === f | cut -f2 -d\| | sort -g | tail -1
   4. grep === f | cut -f2 -d\| | tail -1

b. Need lines not matching === which -v flag does (c & d eliminated), a results in syntax error due to the cmd being confused about piping |.

1. Which of the following declares var to be a function which returns a string and takes two parameters: the first is an integer pointer and the second is a pointer to a function which takes no arguments and returns nothing?
   1. char\* var(int \*, void (\*)(void))
   2. char\* (\*var)(int \*, void (\*)(void))
   3. char (\*var)(int \*, void \*)
   4. char (\*var)(int\*, void (\*)(void))

a, the rest define function pointers.

1. What will be output by the following code?  
     
   int\* p, \*q;  
   int a[]={1, 4, 8, 16, 9, 10};  
   p=&(a[1]);   
   q=p+1;  
   ++q;  
   printf(“%d”, (\*q-\*p));  
   1. 7
   2. 0
   3. 12
   4. 8

c.   
 p = a starting at 1 poss which is the number 4   
 q is pointed to the next element 8 then moved over 1 again so 16.   
 therefore 16 - 4 = 12.

1. What is output by the following code?  
     
   int i=2, k=0;  
   for (i=0; i<4; ++i) {  
    if(i % 2) {  
    k++;  
    }  
   }  
   printf(“%d %d\n”, i, k);  
   1. 4 1
   2. 4 2
   3. 2 1
   4. 3 1

b

1. What is output by the following code?  
     
   int x,y;  
   float p,q;  
   p=5;  
   q=2;  
   x=5;  
   y=2;  
   p=x/y\*q;  
   q=x/q;  
   printf(“%e %e”, p, q);  
   1. 5 2.5
   2. 4 2.5
   3. 4 2
   4. 5 2

b

1. A listing of your directory contains the following:  
     
   -r--r-x--- 2 you uusers 3 May 18 2014 thefile  
     
   Which command would ensure that users who are in uusers cannot interact with thefile but you and everyone else can read and write?
   1. chmod u+w,o=rw thefile
   2. shutdown -h now
   3. chmod u+w,g=,o=777 thefile
   4. chmod u=rw,g-rx,o+rw thefile

d

1. Consider a system with a page size of 2048 bytes and the following except from its page table:

|  |  |
| --- | --- |
| **Page** | **Frame** |
| 100 | 41 |
| 185 | 95 |
| 186 | 13 |
| 187 | 12 |

Which physical address does the virtual address 381173 map to?

* 1. 24821
  2. 194560
  3. 26869
  4. 26624

c  
 381173/pagesize(2048) = 186 r 245  
 186 is on frame 13.  
 therefore physical address = frame(13) \* 2048 + 245 = 26869