Lectures

- In the lecture on February, 8th we discussed System Structures (Chapter 2)

- In the lecture on February, 10th you will get a C programming introduction. The slides can be found in the blackboard system.

- In week 7 we will start with Chapter 3.

- Voluntary reading for DTrace:

  - Dynamic Instrumentation of Production Systems, Bryan M. Cantrill, Michael W. Shapiro and Adam H. Leventhal, Solaris Kernel Development Sun Microsystems http://www.sun.com/bigadmin/content/dtrace/dtrace_usenix.pdf

  - BigAdmin System Administration Portal for DTrace :http://www.sun.com/bigadmin/content/dtrace/

  - The examples that were shown in the lecture can be downloaded here: http://www.imada.sdu.dk/~daniel/DM510-2010/add/dm510-dtrace-examples.tar.gz

- Note: The slides for the second chapter differ significantly from the original slides provided by Wiley.

Tutorial Session

- Prepare for the Tutorial Session on Thursday, February 11, 2010:
  2.1, 2.2, 2.5, 2.6, 2.7, 2.8, (2.9), 2.13, (2.14), 2.15, 2.17

  Additionally, discuss the following source code of a D program. `profile:::tick-1sec` tells the `profile` provider to create a new probe which fires once per second. The function `trace()` indicates that DTrace should record the specific argument and print it out. What are the clauses of the program? What are the actions of the prgram? What are predicates of the program? What happens on execution and what is the output of the program?

```
dtrace:::BEGIN
{
    i = 10;
}

profile:::tick-1sec
/i > 0/
{
```

```
        trace(i--);
    }


    profile:::tick-1sec
    /i == 0/
    {
        trace("blastoff!");
        exit(0);
    }
```

C programming exercises

From the online C tutorial http://www.cprogramming.com/tutorial.html#ctutorial read the parts Intro to C, If statements, Loops in C, Functions, Switch case, and Pointers. In the tutorial session focus on pointers:

1. Which of the following is the proper declaration of a pointer?

   - `int x;`
   - `int &x;`
   - `ptr x;`
   - `int *x;`

2. Which of the following gives the memory address of integer variable a?

   - `*a;`
   - `a;`
   - `&a;`
   - `address(a);`

3. Which of the following gives the memory address of a variable pointed to by pointer a?

   - `a;`
   - `*a;`
   - `&a;`
   - `address(a);`

4. Which of the following gives the value stored at the address pointed to by pointer a?

   - `a;`
   - `val(a);`
   - `*a;`
   - `&a;`

5. Which of the following is the proper keyword or function to allocate memory in C?

- new
- malloc
- create
- value

6. Which of the following is the proper keyword or function to deallocate memory?

- free
- delete
- clear
- remove