

CSM27 Weekly Sheets 1, 8, and 9

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1 Week 1

1.1 Current Security Problems

- Find at least 5 news articles (printed press or WWW) about security issues, problems, or incidents.
- From the articles, select two separate incidents or issues to analyse.
- For each incident/issue
 1. classify the problem (confidentiality, integrity, availability)
 2. identify the threat and the vulnerability.
 3. identify any useability or reliability issues.
- Remember that each instance may represent more than one class, threat, and vulnerability.
- Give reasons for your answers
- Expected length about 2 pages, plus copies of the five news articles.

2 Week 8

2.1 Bishop 21.5

Refer to the Common Criteria portal <http://www.commoncriteriaportal.org/>. Choose one protection profile (PP) which interests you, and the security targets (ST) of a product implementing this PP.

- Compare the PP and the ST and identify any differences.
- Based on this comparison, what is your opinion of the product?
- For which applications is the product suitable?

3 Week 9

3.1

Consider the following piece of code from Section 14.2.2 in Gollmann's book, i.e.

```

char buf[128] ;
combine( char *s1, size_t len1, char *s2, size_t len2)
{
    if ( len1+len2+1 <= sizeof(buf) ) {
        strncpy( buf, s1, len1 ) ;
        strncat( buf, s2, len1 ) ;
    }
}

```

- Why is the code unsafe? (This question is answered in the book.)
- Suggest a fix to the flaw in the code above. (This question is asked (but not answered) in the book.)

3.2 Pfleeger & Pfleeger 3.13 (rephrased)

Consider a data structure for a doubly linked list. The data structure is of critical importance, but will run on a system subject to periodical (irregular) hardware failures. In other words, the system can go down without warning in the middle of a the execution of a method.

You are to implement the INSERT method (as well as any required auxiliary methods, such as error-recovery to be run after an accidental crash) for this data structure. Give an outline of the algorithm in pseudo-code (or any programming language you like). Write a short reasoning for key statements in the algorithm.