

Part I. (30 points) Solve each of the problems as best you can in the time allotted.

(5^{pts}) 1. How do consultants really help their clients?

5 pts

(5^{pts}) 2. What is the value of x after this Java code is run? (via [here](#))

```
public class ThreadsLimits extends Thread {
    static volatile int x;

    public void run() {
        for (int i = 0; i < 10; i++) {
            int temp = x;
            temp++;
            x = temp;
        }
    }

    public static void main(String [] args) {
        Thread t1 = new ThreadsLimits ();
        Thread t2 = new ThreadsLimits ();

        t1.start ();
        t2.start ();

    }
}
```

5 pts

(5^{pts}) 3. It is well known that _____ and _____ are the “fathers” of Computer Science.

5 pts

(2^{pts}_{ea.}) 4. *True or False.*

- (a) _____ Java was created to run on cable boxes.
- (b) _____ Smalltalk was designed to help children learn.
- (c) _____ C was designed to help port UNIX.
- (d) _____ Common Lisp was designed to help the LISP industry prosper.

8 pts

15 pts

(10pts) 5. Select the correct answer for each of the following multiple choice. There is only one correct answer.

10 pts

(a) (6 pts) The first compiler was written by?

- (A) Ada Lovelace (B) Grace Hopper (C) Barbara Liskov

(b) (4 pts) In what year was the first compiler written?

- (A) 1944
(B) 1953
(C) 1960
(D) 1968

(5pts) 6. Which of the following statements about LISP is untrue?

5 pts

Is as stunningly original as it is powerful.

Is multi-paradigm: OO, functional, logical, and procedural.

Will never succeed.

Will someday succeed.

Is the 2nd oldest high level language before FORTRAN.

Had language features back then like garbage collection, dynamic modification of the runtime, and macros, which today are considered “new” and “revolutionary”.

15 pts