Programming Text Reading Guide

Name:

Reading Assignment: Chapter 1 (Computer Systems), pages 1–50

What the content is about (in your own words):

This chapter talks about the parts of a computer and how programming is used to operate it. It also introduces the Java Programming language and how it is used to solve problems.

Key Vocabulary:

1. What does CPU stand for? What are the three parts to a CPU and what function do they have?

2. Give an example of an input device and an example of an output device.

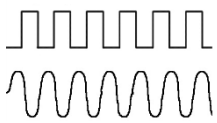
3. What's the difference between primary and secondary memory?

4. What's the difference between hardware and software?

5. What does an operating system do? How about an application? Is an operating system an application?

6. What's a Graphical User Interface (GUI)? Can you give an example?

7. Which of the following is an example of an analog signal and which is a digital signal? Which system is used more by computers?



8. How many numbers are there in a binary number system? What numbers are used by a digital computer system?

9. How many items can be represented by each of the following binary digit (bit) amounts?

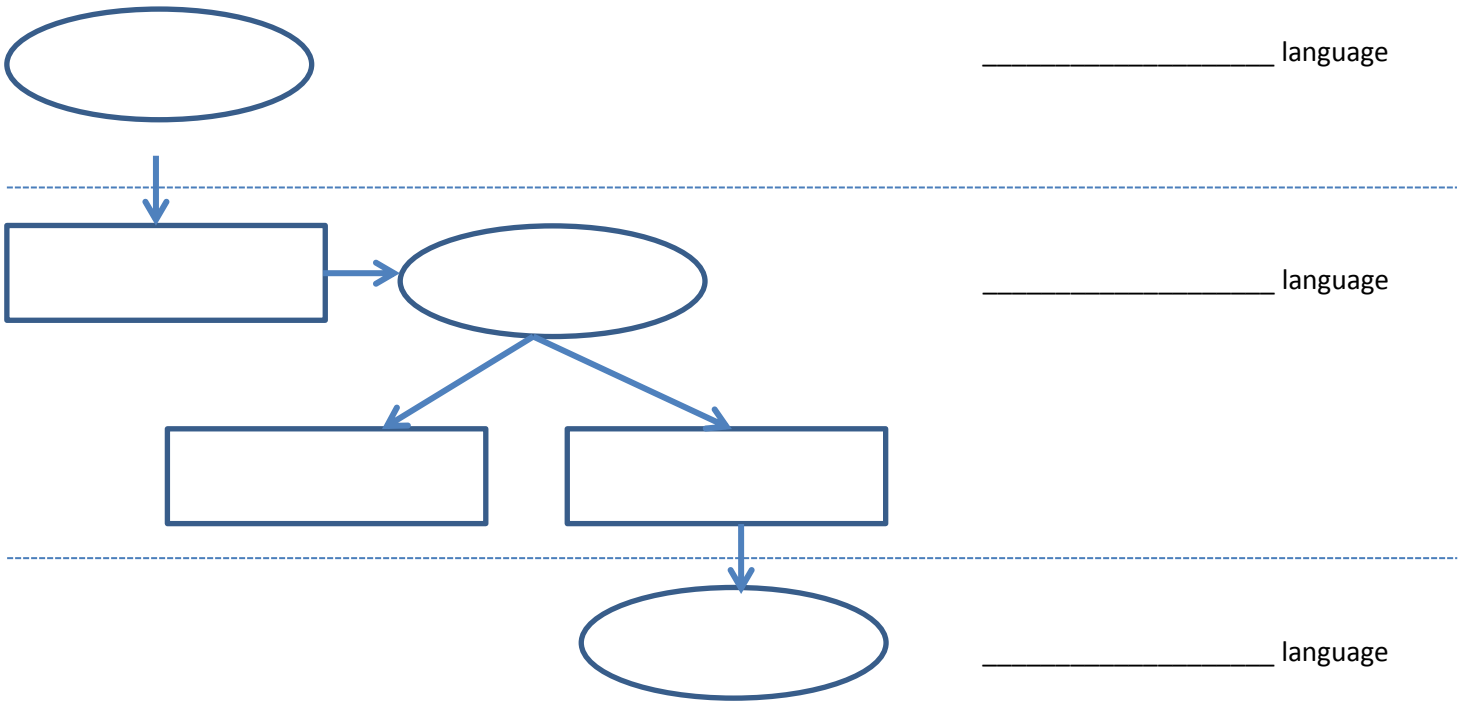
1 bit= 4 bits= 8 bits=

10. About how many bits are in a byte? How many bytes are in these other units?

byte _____
kilobyte
megabyte
gigabyte
terabyte

11. According to the textbook, how many values can be stored in one memory location or address? (To answer this question, you will need to put together some information given about both bits and bytes.)

12. Complete the following diagram (Again, you will need to combine information from the textbook.):



13. What is the JDK and which parts of the above diagram are included in it? Why is JAVA a particularly useful way to run programs?

14. What is an IDE? Why would one want to use it? Give an example of an IDE.

15. Circle any examples of a syntax error and draw a box around any examples of a semantic error.

I is going to the concert tonight.

My refrigerator just drove a car to Chicago.

Code snippit:

I'm eating an apple tonight.

```
5 int num;
6 float value
7 double bigNum;
```

16. Which type of error will be a compile-time error and which one will be a run-time error?

17. What is debugging?

18. Give 3 examples of reserved words in JAVA.

19. Describe any 3 rules for creating a valid identifier.

20. Why is it important to put documentation in a program such as in the example in listing 1.1?

21. Why is it important to use good programming style? Consider listing 1.3 when you formulate your answer.

22. What are the 6 steps in problem solving?

Key Concepts/Skills:

- Setting up an IDE and linking it to the JDK.
- Becoming familiar with flowchart diagrams.
- Writing and compiling a simple JAVA program.

Notable Programming Code:

- System.out.print();
- System.out.println();
- single line comments: //
- multi-line comments /* *

Assignments:

Multiple Choice: 1.1, 1.6, 1.7, 1.8
True/False: 1.1, 1.5, 1.7
Short Answer: 1.8, 1.9
Projects: 1.3, 1.4, 1.5, 1.6