

# AP Computer Science

## Chapter 1 – Learning Objectives

---

By the end of the chapter students should be able to:

- a. Type in, compile, and run a Java program.
- b. State the basic Java program structure and components (source file, class, and methods).
- c. State and describe the two types of errors in programs: logical and syntactical.
- d. Debug a Java program with both logical and syntactical errors.
- e. Write while and for loops that are syntactically correct.
- f. Write if and if-else statements that are syntactically correct.
- g. Write boolean statements that include the use of `>`, `<`, `>=`, `<=`, `=`, and `!=` within the context of an if statement, for loop, and while loop.
- h. Write comments using the `//` and `/* ...*/`, and javadoc constructs.
- i. Write the Java code to create a String object.
- j. Write the Java code to create an array of String objects or any primitive type.
- k. Write the Java code to access any element in an array using `[]` notation.
- l. Write the Java code to print output using `“System.out.println()”`.
- m. State that `Math.random` returns a floating point number (double) from 0 inclusive to 1 exclusive.
- n. Write the Java code to create random numbers between -100 and 100 using `Math.random()`