AP Computer Science Review

1. How do you write the main method of a Java program?

public static void main(String[] args) {

}

1. What type of errors is thrown when you forget a ; ?

**A compile time error.** Expected: “;”

1. Why do we use comments?

**To describe what’s happening in our programs.**

1. What must be done to all variables and why?

**Declare. The initial definition to either declare it null or a certain value.**

1. How do you declare variables?

int foo = 10; or int foo;

1. How does JAVA order of operations work?

1 + 2 \* 3 = 1 + (2 \* 3)

1. How does integer division in JAVA work?

**Use a forward slash between the original number and divisor as shown:**

int foo = 12 / 6;

1. When printing, what happens as you mix integer value variable with string statements?

**They manifest in the console side by side. For example, you could display the percentage next to a context.**

System.out.println(“Percentage: ” + percentOfIntVariable + “%”);

Reads: “Percentage: percentOfIntVariable%”

1. What is casting?

**Taking an object of one type then turning it into another type.**

foo = foo + addToFoo;

1. How can you change the value of integer variables?

**You just make it equal to another value.**

foo = newValue;

1. How does interchanging print and println work?

**Print prints a value or string on a separate line. Println prints them on the same line.**

1. How do basic if logic statements work?

if (value == desiredValue) {

//do something

}

1. What is || vs. && in JAVA?

**&& means conditional AND. Compares two or more values to another.**

**|| means conditional OR. Compares a single value to another.**

1. How do || and && evaluate in JAVA Boolean statement?

**&& returns true if all operands are true.**

**|| returns true if one value is true and the other(s) is(are) false.**

1. How does the logic of if else statements with nested if else using variables work?

if (foo == desiredValue) {

if (foo == secondDesiredValue) {

//run something

} else {

//run alternative to daughter

}

} else {

//run alternative to parent

}

1. What are the parameter values of for loops and how do they work?

**The variable setup: declares the variable that will be used in the for loop.**

**The test statement: tests whether the variable meets requirements.**

**The incrementer/decrementer: advances the for loop.**

1. When does an else get used in if statements?

**To run alternative code if the if statement is false.**

1. How does a while loop run?

while (foo == true) {

//run code in this section as long as foo is true.

}

1. What is an infinite loop and what prints if an infinite loop occurs?

A loop that does not contain or contains an always true variable test statement, and runs infinitely.

for (i=0; i>=0; i++) {

\*/code runs infinitely because i is always greater than zero./\*

}

1. What are the different ways of incrementing numbers in loop statements?

i++: **increments one**

i+number: **increments by the value of the number.**

1. What are classes?

**The main section in a Java file which contains every object in the file. They must be the same name as the filename.**

1. What are objects?

**Members of a class which contains variables that are either explicitly defined or have functions that change them within the objects.**

1. How do you call to have a method on to an object?

You define the object by using:

fooObject foo = new fooObject();

, then call it’s methods using:

foo.fooMethod(//return val);

1. How are Booleans returned in JAVA?

Boolean foo = true;

if (foo == desiredValue) {

foo = true;

} else {

foo = false;

}

return foo;

1. What is a default constructor?

**It is placed at the end of a method that does not contain a return variable.**

1. How is the substring method used?

**It extracts characters between two indices, then returns the extracted characters as a new string.**

1. How is the length method used?

**It measures the number of indices in a given string.**

String str = “foo”

System.out.println(str.length);

**Output:**

**2**

1. What order do you write the key words to define a method?

public void method() {

}

1. How do you define a method with a return of type int?

public method(int var) {

}

1. What rules are used in writing the parameters of a method?

**If there is no return type, use a pair of parentheses with no values in between after the method name along with the** void **return type before the name to tell the compiler that there is no return type.**

1. What is the difference between constructors and methods?

**Constructors are what define the beginning and end of a method, wrote as an opening and closing curly brace.**

1. How do you write an ArrayList statement to instantiate a given list of numbers?

ArrayList foo = new ArrayList();

foo.add(“value1”);

foo.add(“value2”);

1. How do you write a statement to determine the number of elements in an array?

String foo = new String[4];

//defines a length of 5.

1. How do you remove elements from an array?

String foo = new String[4];

foo[1] = foo[foo.length – removedElementIndice];

1. What happens when you try to “get” an element outside of the array?

**It throws an out of bounds exception.**

1. What commands can be used to add elements to an array?

String foo = new String[4];

foo[1] = foo[foo.length + newElement];

1. How do you print a specific element of an array?

String foo = new String[4];

System.out.println(foo[0]);

//print the element in position 0.

1. How do you write an array to create a list of counting numbers?

int foo = new int[10];

for (i = 0; i <= foo.length; i++) {

System.out.println(i);  
}

1. What is the difference between the length of an array and the element positions?

**The length means the total number of element indices, while the position is the part of an array where a value is located at.**

1. When dealing with a nested for loop what is the logical order that printing will happen?

**The outer loop controls the number of iterations of the inner loop.**