**Answers to Extra Core Java Labs**

**Object Oriented Concepts**

1. Real-world objects contain \_**state**\_\_ and \_**behaviour**\_\_.
2. A software object's state is stored in \_**fields**\_\_.
3. A software object's behavior is exposed through **methods**\_\_\_.
4. Hiding internal data from the outside world, and accessing it only through publicly exposed methods is known as data \_**encapsulation**\_\_.
5. A blueprint for a software object is called a \_**class**\_\_.
6. Common behavior can be defined in a \_**superclass**\_\_ and inherited into a **subclass** using the \_**extends**\_\_ keyword.
7. A collection of methods with no implementation is called an **\_interface\_\_.**
8. A namespace that organizes classes and interfaces by functionality is called a **package\_\_\_.**
9. The term API stands for **\_Application Programming Interface.**

**Operators**

**Questions**

**1.>,+**

**2. i=11 and n=0**

**3. i=11 and n=1**

**4. The logical complement operator " ! ".**

**5. ==**

**6. If someCondition is true, assign the value of value1 to result. Otherwise, assign the value of value2 to result.**

**Exercises:**

**1. class ArithmeticDemo {**

**public static void main (String[] args){**

**int result = 3;**

**System.out.println(result);**

**result -= 1; // result is now 2**

**System.out.println(result);**

**result \*= 2; // result is now 4**

**System.out.println(result);**

**result /= 2; // result is now 2**

**System.out.println(result);**

**result += 8; // result is now 10**

**result %= 7; // result is now 3**

**System.out.println(result);**

**}**

**}**

**2.** **The code System.out.println(++i); evaluates to 6, because the prefix version of ++ evaluates to the incremented value. The next line, System.out.println(i++); evaluates to the current value (6), then increments by one. So "7" doesn't get printed until the next line.**

**Control Flow**

**Questions:**

1. **The most basic control flow statement supported by the Java programming language is the \_if-then\_\_ statement.**
2. **The \_switch\_\_ statement allows for any number of possible execution paths.**
3. **The \_do while\_\_ statement is similar to the while statement, but evaluates its expression at the \_bottom\_\_ of the loop.**
4. **How do you write an infinite loop using the for statement?**

**Ans: for( ; ; ){**

**}**

1. **How do you write an infinite loop using the while statement?**

**Ans: while(true){**

**}**

**Exercises:**

**1 a. second string**

**third string**

**1 c. if (aNumber >= 0)**

**if (aNumber == 0)**

**System.out.println("first string");**

**else**

**System.out.println("second string");**

**System.out.println("third string");**

**1 d. if (aNumber >= 0) {**

**if (aNumber == 0) {**

**System.out.println("first string");**

**} else {**

**System.out.println("second string");**

**}**

**}**

**System.out.println("third string");**