**8. Write a program that has the following declaraion: byte b = 09;**

**Points to ponder: How do you define numbers of base 16 (Hex) and numbers of base 8 in Java?**

Octal(base 8):- Prefix-0  
 octal digits(0, 1, 2, 3, 4, 5, 6, 7).   
 For example, 045, 076, 06210.

Hexadecimal(base 16):- Prefix- 0x or 0X   
 hexadecimal digits(0, 1, 2, 3, 4, 5, 6, 7, 8, 9, a, A, b, B, c, C, d, D, e, E, f, F).   
 For example, 0x23A, 0Xb4C, 0xFEA.

**9. With reference to the program where PI id defined as a constant. What is the naming convention of the constant variable?**

It should be in uppercase letters such as MAX, CONST.

If the name contains multiple words, it should be separated by an underscore (\_) such as MAX\_VALUE.

It may contain digits but not as the first letter.

1. **What are the possible values a boolean variable can take?**

true and false

1. **What are the values a boolean expression can resolve to?**

Either true or false

**3. What is the difference between the following sets of operators:**

|  |  |
| --- | --- |
| && | & |
| Logical Operator | Bitwise Operator |

|  |  |
| --- | --- |
| || | | |
| Logical Operator | Bitwise Operator |

**Which of these is called the short circuit operators?**

&& and ||

**5. What are the most common situations where the circuit operators are used?**

* When the conditions are case of logical AND truth-table i.e. each and every conditions should be true for production of the result
* When the conditions are case of logical OR truth-table i.e. each any of a conditions is true for production of the result

**6. In a program, typically where are boolean expressions used?**

* Whenever the decision making conditional structures are there like if statment

**7. Does java have support for a ‘boolean’ data type?**

* Yes java support the Boolean datatype which takes the true or false as its value

1. **What do you mean by nesting? What are the rules related to nested blocks of code?**

* **A** nested loop is a (inner) loop that appears in the loop body of another (outer) loop

**Upto what level can blocks be nested?**

1. **Can you write a switch case based on the value of a string variable?**

* Yes we can use string variable as case in switch but its case sensitive

**In a switch statement, can default be placed at the top instead of at the bottom?**

* The default statement doesn't have to come at the end. It may appear anywhere in the body of the switch statement.

**Why is it usually placed at the top?**

* The statements written above cases are never executed After the switch statement, the control transfers to the matching case, the statements written before case are not executed.

**What do you understand by idioms in a programming language?**

A programming idiom is a pattern, algorithm or way of structuring code. To talk about programming idioms is to talk about those patterns that recur frequently in code or to propose new ones.

The benefits of being familiar with idioms, particularly the larger ones, is that when looking at code you can see several lines of code but because it is familiar as a particular idiom you can mentally represent and think about the code as that single idiom instead of having to necessarily read and comprehend each line individually.