**1. Which of these selection statements test only for equality?**  
a) if  
b) switch  
c) if & switch  
d) none of the mentioned

**Answer: b**  
Explanation: Switch statements checks for equality between the controlling variable and its constant cases.

**2. Which of these are selection statements in Java?**  
a) if()  
b) for()  
c) continue  
d) break

**Answer: a**  
Explanation: Continue and break are jump statements, and for is a looping statement.

**3. Which of the following loops will execute the body of loop even when condition controlling the loop is initially false?**  
a) do-while  
b) while  
c) for  
d) none of the mentioned

**Answer: a**  
Explanation: None.

**4. Which of these jump statements can skip processing the remainder of the code in its body for a particular iteration?**  
a) break  
b) return  
c) exit  
d) continue

**Answer: d**  
Explanation: None.

**5. Which of this statement is incorrect?**  
a) switch statement is more efficient than a set of nested ifs  
b) two case constants in the same switch can have identical values  
c) switch statement can only test for equality, whereas if statement can evaluate any type of boolean expression  
d) it is possible to create a nested switch statements

**Answer: b**  
Explanation: No two case constants in the same switch can have identical values.

**6. What will be the output of the following Java program?**

1. **class** selection\_statements
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **int** var1 = 5;
6. **int** var2 = 6;
7. **if** ((var2 = 1) == var1)
8. System.out.print(var2);
9. **else**
10. System.out.print(++var2);
11. }
12. }

a) 1  
b) 2  
c) 3  
d) 4

**Answer: b**  
Explanation: var2 is initialised to 1. The conditional statement returns false and the else part gets executed.  
output:

$ javac selection\_statements.java

$ java selection\_statements

2

**7. What will be the output of the following Java program?**

1. **class** comma\_operator
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **int** sum = 0;
6. **for** (**int** i = 0, j = 0; i < 5 & j < 5; ++i, j = i + 1)
7. sum += i;
8. System.out.println(sum);
9. }
10. }

a) 5  
b) 6  
c) 14  
d) compilation error

**Answer: b**  
Explanation: Using comma operator, we can include more than one statement in the initialization and iteration portion of the for loop. Therefore both ++i and j = i + 1 is executed i gets the value – 0,1,2,3,4 & j gets the values -0,1,2,3,4,5.  
output:

$ javac comma\_operator.java

$ java comma\_operator

6

**8. What will be the output of the following Java program?**

1. **class** jump\_statments
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **int** x = 2;
6. **int** y = 0;
7. **for** ( ; y < 10; ++y)
8. {
9. **if** (y % x == 0)
10. **continue**;
11. **else** **if** (y == 8)
12. **break**;
13. **else**
14. System.out.print(y + " ");
15. }
16. }
17. }

a) 1 3 5 7  
b) 2 4 6 8  
c) 1 3 5 7 9  
d) 1 2 3 4 5 6 7 8 9

**Answer: c**  
Explanation: Whenever y is divisible by x remainder body of loop is skipped by continue statement, therefore if condition y == 8 is never true as when y is 8, remainder body of loop is skipped by continue statements of first if. Control comes to print statement only in cases when y is odd.  
output:

$ javac jump\_statments.java

$ java jump\_statments

1 3 5 7 9

**9. What will be the output of the following Java program?**

1. **class** Output
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **final** **int** a=10,b=20;
6. **while**(a<b)
7. {
9. System.out.println("Hello");
10. }
11. System.out.println("World");
13. }
14. }

a) Hello  
b) run time error  
c) Hello world  
d) compile time error

**Answer: d**  
Explanation: Every final variable is compile time constant.

**10. What will be the output of the following Java program?**

1. **class** Output
2. {
3. **public** **static** **void** main(String args[])
4. {
5. **int** a = 5;
6. **int** b = 10;
7. first:
8. {
9. second:
10. {
11. third:
12. {
13. **if** (a == b >> 1)
14. **break** second;
15. }
16. System.out.println(a);
17. }
18. System.out.println(b);
19. }
20. }
21. }

a) 5 10  
b) 10 5  
c) 5  
d) 10

**Answer: d**  
Explanation: b >> 1 in if returns 5 which is equal to a i:e 5, therefore body of if is executed and block second is exited. Control goes to end of the block second executing the last print statement, printing 10.  
output:

$ javac Output.java

$ java Output

**Q1.** **Write a Java program to display the following pattern.**  
Sample Pattern :

J a v v a

J a a v v a a

J J aaaaa V V aaaaa

JJ a a V a a

**Q2.** **Write a Java program to compute the specified expressions and print the output.**Test Data:  
((25.5 \* 3.5 - 3.5 \* 3.5) / (40.5 - 4.5))  
Expected Output  
2.138888888888889

**Q3.Write a Java program to print the area and perimeter of a circle.**Test Data:  
Radius = 7.5  
Expected Output  
Perimeter is = 47.12388980384689  
Area is = 176.71458676442586

**Q4.Write a Java program to print an American flag on the screen.***Expected Output*

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**Q5.Write a Java program to print a face.***Expected Output*

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