1.Which of the following variable types is not permitted in a switch statement?
   A. String
   B. double
   C. int
   D. char

2.What is the value of tip after executing the following code snippet?
```
int meal = 5;
int tip = 2;
int total = meal + (meal>6 ? ++tip : --tip);
```
   A. 1
   B. 2
   C. 3
   D. 6

3.What is the output of the following application?
```
package registration;
public class NameCheck
{
public static void main(String... data)
{
String john = "john";
String jon = new String(john);
System.out.print((john==jon)+" "+(john.equals(jon)));
}
}
```
   A. true true
   B. true false
   C. false true
   D. false false

4.Which statement immediately exits a switch statement, skipping all remaining case or default branches?
   A. exit
   B. break
   C. goto
   D. continue

```
package dinosaur;
public class Park
{
public final static void main(String... arguments)
{
int pterodactyl = 6;
long triceratops = 3;
if(pterodactyl % 3 >= 1)
triceratops++; triceratops--;
System.out.print(triceratops);
}
}
```

   A. 2
   B. 3
   C. 4
   D. The code does not compile.

```
package restaurant;
public class Pieces
{
public static void main(String[] info)
{
int flair = 15;
if(flair >= 15 && flair < 37)
{
 System.out.print("Not enough");
}
if(flair==37)
{
 System.out.print("Just right");
}
else
{
System.out.print("Too many");
}
}
}
```

   A. Not enough
   B. Just right
   C. Too many

D. None of the above

7.What is the output of the following code snippet?
```
int hops = 0;
int jumps = 0;
jumps = hops++;
if(jumps)
System.out.print("Jump!");
else
System.out.print("Hop!");
```
A.   Jump!
B.   Hop!
C.   The code does not compile.
D.   The code compiles but throws an exception at runtime.

8.Fill in the blanks: The   operator increases the value of a variable by 1 and returns the new value, while the operator decreases the value of a variable by 1 and returns the original value.
   A. pre-increment [++v], pre-decrement [--v]
   B. pre-increment [++v], post-decrement [v--]
   C. post-increment [v++], pre-decrement [--v]
   D. post-increment [v++], post-decrement [v--]

9.What is the output of the following application?
```
package jungle;
public class TheBigRace
{
public static void main(String[] in)
{
int tiger = 2;
short lion = 3;
long winner = lion+2*(tiger + lion);
System.out.print(winner);
}
}
```
   A. 11
   B. 13
   C. 25
   D. None of the above

10.Given the following code snippet, assuming dayOfWeek is an int, what variable type of saturday is not permitted?
```
final saturday = 6;
switch(dayOfWeek)
{
default:
System.out.print("Another Weekday");
break;
case saturday:
System.out.print("Weekend!");
}
```
   A. byte
   B. long
   C. int
   D. None of the above

11.What is the output of the following application?
```
package recreation;
public class Dancing
{
public static void main(String[] vars)
{
int leaders = 10 * (2 + (1 + 2 / 5);
int followers = leaders * 2;
System.out.print(leaders + followers < 10 ? "Too few" : "Too many");
}
}
```
   A. Too few
   B. Too many
   C. The code does not compile.
   D. The code compiles but throws a division by zero error at runtime.

12.What is the output of the following application?
```
package schedule;
public class PrintWeek
{
public static final void main(String[] days)
{
 System.out.print(5 + 6 + "7" + 8 + 9);
}
}
```
   A. 56789

B. 11789

C. 11717

D. The code does not compile.

13.Fill in the blanks: The operator is used to find the difference between two numbers, while the operator is used to find the remainder when one number is divided by another.

   A. /, %

   B. -, %

   C. %, <

   D. -, ||

14.What is the output of the following application?

```
package transporter;
public class Rematerialize
{
public static void main(String[] input)
{
int dog = 11;
int cat = 3;
int partA = dog / cat;
int partB = dog % cat;
int newDog = partB + partA * cat;
System.out.print(newDog);
}
}
```

   A. 9

   B. 11

   C. 15

   D. The code does not compile.

15.What is the output of the following application?

```
package dessert;
public class IceCream {
public final static void main(String... args) {
int flavors = 30;
int eaten = 0; switch(flavors) {
case 30: eaten++;
case 40: eaten+=2;
default: eaten--;
}
System.out.print(eaten);
```

```
        }
}
```

    A. 1
    B. 2
    C. 3
    D. The code does not compile.

```
package mode;
public class Transportation {
public static String travel(int distance) {
return distance<1000 ? "train" : 10;
}
public static void main(String[] answer) {
System.out.print(travel(500));
}
}
```
    A. Train
    B. 10
    C. The code does not compile.
    D. The code compiles but throws an exception at runtime.

    A. ==, equals()
    B. !=, equals()
    C. equals(), ==
    D. equals(), =!

```
package city;
public class Road {
public static void main(String... in) {
int intersections = 100;
int streets = 200;
if (intersections < 150) {
System.out.print("1");
}
else if (streets && intersections > 1000) {
```

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```java
System.out.print("2");
}
if (streets < 500)
System.out.print("1");
else
System.out.print("2");
}
}
```
   A. None
   B. One
   C. Two
   D. The code does not compile.

19.Which statement about the logical operators & and && is true?
   A. The & and && operators are interchangeable, always producing the
      same results at runtime.
   B. The & operator always evaluates both operands, while the &&
      operator may only evaluate the left operand.
   C. Both expressions evaluate to true if either operand is true.
   D. The & operator always evaluates both operands, while the &&
      operator may only evaluate the right operand.

20.What is the output of the following code snippet?
```java
int x = 10, y = 5;
boolean w = true, z = false;
x = w ? y++ : y--;
w = !z;
System.out.print((x+y)+" "+(w ? 5 : 10));
```
   A. The code does not compile.
   B. 10 10
   C. 11 5
   D. 12 5

22.What is the value of 12 + 6 * 3 % (1 + 1) in Java?
   A. 0
   B. 12
   C. 14
   D. None of the above

Which of the following is not a possible result of executing the following application?
```
public class ConditionallyLogical {
public static void main(String... data) {
if(data.length>=1&& (data[0].equals("sound") || data[0].equals
("logic")) && data.length<2) {
System.out.print(data[0]);
}
}
}
```
   A. Nothing is printed.
   B. sound is printed.
   C. The application throws an exception at runtime.
   D. logic is printed.

23.What is the output of the following application?
```
package transporter;
public class TurtleVsHare {
public static void main(String[] arguments) {
int turtle = 10 * (2 + (3 + 2) / 5);
int hare = turtle < 5 ? 10 : 25;
System.out.print(turtle < hare ? "Hare wins!" : "Turtle wins!");
}
}
```
A.   Hare wins!
B.   Turtle wins!
C.   The code does not compile.
D.   The code compiles but throws a division by zero error at runtime.

24.What is the output of the following application?
```
public class CountEntries {
public static int getResult(int threshold) {
return threshold > 5 ? 1 : 0;
}
public static final void main(String[] days)
{
System.out.print(getResult(5)+getResult(1)+getResult(0)+getResult(2)+"
");
}
}
```
   A. 0
   B. 1

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C. 0000
D. 1000

```
package yoyo;
public class TestGame {
public String runTest(boolean spinner, boolean roller) {
if(spinner = roller) return "up";
else return roller ? "down" : "middle";
}
public static final void main(String pieces[]) {
final TestGame tester = new TestGame();
System.out.println(tester.runTest(false,true));
}
}
```

   A. up
   B. middle
   C. down
   D. The code does not compile.

```
int characters = 5;
int story = 3;
double movieRating = characters <= 4 ? 3 : story>1 ? 2 : 1;
```

   A. 2.0
   B. 3.0
   C. The code does not compile but would compile if parentheses were added.
   D. None of the above