Variables, values, types, expressions, conditionals, and loops

1) What does the following code snippets print and justify your answer?
   (**Note**: Please try to answer these yourself first before running them in the Scala shell)

   a.
   ```scala
   val Int = 10
   bb = "funny"
   println(bb)
   ```

   b.
   ```scala
   val dd: Double = 9.99
   dd = 10.01
   println(dd)
   ```

   c.
   ```scala
   println(true && false)
   ```

   d.
   ```scala
   println(5 < 6 && 10 == 10)
   ```

   e.
   ```scala
   println("frank" || true)
   ```

   f.
   ```scala
   val f = "4.44".toFloat
   println(f.getClass)
   ```

   g.
   ```scala
   println(77.toString == "77")
   ```

   h.
   ```scala
   val number = {val x = 2 * 2; x + 40}
   println(number)
   ```

   i.
   ```scala
   val ttt = {
     val first = "katy"
     s"$first perry"
   }
   println(ttt)
   ```

   j.
   ```scala
   var band = {
     var name = "sublime"
     name
   }
   println(name)
   ```

   k.
   ```scala
   if (true) {
     "it is true"
   } else {
     "i'm confused"
   }
   ```

2) Implement Scala code to print the following:

2
4
6
8
10

3) Write the output generated by the below code snippet

```
var x = 10
while (x <= 10 )
{
        if  (x <= 5 )
        println (x)
        x = x + 1
}
```

4) Implement Scala code to display the count of numbers between 1 and 100 not divisible by 2, 3 and 5.

5) Implement Scala code to print all possible 3-digit numbers with combinations of 1, 2 and 3.

6) Implement Scala code to print the following pattern:

```
* * * * * * * *
 * * * * * *
  * * * *
   * *
```