```java
package prob02;

public class TestClass

{

    public static void main(String[] args)

    {

        System.out.println("What is it printing?\nExplain the problem it is solving.");
        // prints all factors of 2 between 1 and 999 inclusively.
        for (int i = 1; i < 1000; i++)
            // checks if the number is a factor of 2.
            if (testOne(i))
                // prints the number if factor of 2.
                System.out.println(i);

        System.out.println("What is it printing?\nExplain the problem it is solving.");
        // checks within 1 and 19 inclusively.
        for (int i = 1; i < 20; i++)

            System.out.println(testTwo(i));

        System.out.println("What is it printing?\nExplain the problem it is solving.");
        // creates an array of integers.
        int[] iHaveSomething = new int[] { 22, 33, 44 };
        // prints all possible combinations of iHaveSomething
        testThree(iHaveSomething);

    }

    // What is the purpose of this method?
    /**
     *
     * @param hasSomething
     * @return true if the number is a factor of 2.
     */
    static boolean testOne(int hasSomething)

    {

        // Explain the following code with an example here

        // The left hand side of the AND is checking whether the supplied number is 0

        // The right side of the and is checking whether the supplied number
        // is a factor of 2.

        //   8 - 1000  |   5 - 0101
        // & 7 - 0111  | & 4 - 0100
        // ----------  | ----------
        // TRUE  0000  | FALSE 0100
        return hasSomething != 0 && ((hasSomething & (hasSomething - 1)) == 0);

    }

    // What is the purpose of this method?
    /**
     * popcount
     * @param whoAmI
     * @return How many 1s are in the binary form of the supplied number.
     */
    static int testTwo(int whoAmI)

    {

        int whatIamDoing = 0;

        // What this loop is doing?
        /*
         * This loop is counting the number of 1s in the
         * supplied number's (whoAmI) binary form.
         * whatIamDoing is being used to store the number of 1s
         * counted.
         */
        while (whoAmI != 0)

        {
            whoAmI = whoAmI & (whoAmI - 1);

            whatIamDoing++;

        }

        // What is returned here to the caller?
        // the number of 1s in whoAmI
        return whatIamDoing;

    }

    // What is the purpose of this method?
    /**
     * Prints every possible combination of elements in the provided array.
     * @param iHaveSomething
     */
    public static void testThree(int[] iHaveSomething)

    {
        // howMany is the size of the supplied array.
        int howMany = iHaveSomething.length;

        // How long does this loop run? Why this nested loop is implemented?
        // this loop runs 2^howMany times.
        for (int i = 0; i < (1 << howMany); i++)

        {
            // this loop runs howMany times.
            for (int j = 0; j < howMany; j++)

            {

                // What actually is this if statement checking?
                // checks if the jth bit of i is set to 1.
                if ((i & (1 << j)) != 0)

                {

                    System.out.print(iHaveSomething[j] + " ");

                }

            }

            System.out.println();

        }

    }

}

```