1:Binary palindrome-:

```
public class BinaryPalindrome {
    public static int findAthBinaryPalindrome(int A) {
        int count = 0;
        int num = 1;

        while (count < A) {
            String binary = Integer.toBinaryString(num);

            if (isPalindrome(binary)) {
                count++;

                if (count == A) {
                    return num;
                }
            }

            num++;
        }

        return -1;
    }
    private static boolean isPalindrome(String str) {
        int left = 0;
        int right = str.length() - 1;

        while (left < right) {
            if (str.charAt(left) != str.charAt(right)) {
                return false;
            }
```

```
            left++;
            right--;
        }

        return true;
    }

    public static void main(String[] args) {
        int A = 1;
        int result = findAthBinaryPalindrome(A);
        System.out.println(result);

        A = 9;
        result = findAthBinaryPalindrome(A);
        System.out.println(result);
    }
}
```

2 count numbers:

```
public class CountNumbers {
    public static int countNumbers(int n) {
        int count = 0;

        for (int x = 0; x <= n; x++) {
            if ((n & x) == x) {
                count++;
            }
        }

        return count;
    }
```

```
    public static void main(String[] args) {
        int n = 5;
        int result = countNumbers(n);
        System.out.println(result);
    }
}
```

3 maximum bitwise:

```
public class MaximumBitwiseAnd {
    public static int findMaximumBitwiseAnd(int[] nums) {
        int maxAnd = 0;

        for (int i = 0; i < nums.length - 1; i++) {
            for (int j = i + 1; j < nums.length; j++) {
                int bitwiseAnd = nums[i] & nums[j];
                maxAnd = Math.max(maxAnd, bitwiseAnd);
            }
        }

        return maxAnd;
    }

    public static void main(String[] args) {
        int[] nums = {3, 5, 8, 10, 12};
        int result = findMaximumBitwiseAnd(nums);
        System.out.println(result);
    }
}
```