1. Write two methods. The first to convert a given integer to a string that contains the sequence of zeros and ones that represent the binary number that corresponds to the input integer. The method signature must be:

    ```
    public static String intToBinary(int n)
    ```

    The second method is to convert a given binary number given as a `String` containing only the characters "`0`" and "`1`" into an integer value that is represented by that string of binary digits. The method should output `-1` if it encounters any character other than "`0`" or "`1`".

    ```
    public static int binaryToInt(String b)
    ```

    You must only use the methods available in the Java AP Subset `String` class and not any other methods. These are the methods: `length`, `equals`, `substring`, `indexOf`, and `compareTo`.

    Here is some example code that can be used to test your code:

    ```
    public static void main(String[] args) {
        System.out.println(binaryToInt("11011"));
        System.out.println(binaryToInt("110x1"));
        System.out.println(intToBinary(0x12A5));
        System.out.println(binaryToInt(intToBinary(1235)));
    }
    ```

    The above code along with your methods, if correct, will output:

    ```
    27
    -1
    1001010100101
    1235
    ```

    Once you have written, run, and tested the code thoroughly, accurately copy it below, and / or on the reverse of this page.