HOW TO CREATE A TABLE TO CIPHER AND DECIPHER USING AFFINE CODE

First of all, you should know that each letter has got an associate ASCII code, for instance a is 97, b is 98 and so on. To work with numbers in Excel is easier than to work with letters. This is the reason why we will follow the following steps to create our spreadsheet.

As you have learnt using Caesar code:

1. Make one column with the numbers between 97 and 122 (Please, do not type all of them, use any option of Excel.
2. In order to translate these numbers into letters use the =CARACTER(CELL). For instance, if cell A1 is 97, then =CARACTER(A1) is a.
3. Make column B following the instructions in paragraph 2.

Now we will do something different:

1. Write the numbers between 0 and 25
2. Since affine code consists of multiplying by three and add 7 more letters we will apply C1=3\*A1+7
3. If you translate into characters column C , it is column D, the last elements are wrong . Why? It is because we have overtaken the last number corresponding to letters.
4. How can we fix it? Using the command SI(condition, then, if not) (in English it is IF, but our spreadsheet has the commands in Spanish ) =SI(D1<27;D1;RESIDUO(D1;26)) and complete column F
5. Add 97 to each element of column F, it is column G
6. Translate column G into characters, it is column H
7. Open a new tab, call it AFFINE TABLE\_ CIPHER and copy and paste columns B and H. Open another tab, call it AFFINE TABLE2\_DECIPHER, copy and paste H and B

HOW TO CIPHER AND DECIPHER

Using the command BUSCARV, this instruction looks for a value on the left column and returns a value from the right column.

To cipher and decipher

For example : =BUSCARV(B2;'AFFINE TABLE\_ CIPHER'!$A$1:$E$26;2, false) Looks for letter in cell B2 in AFFINETABLE\_CIPHER and returns the element in the right column . Obviously searching in AFFINE TABLE2\_DECIPHER we will decipher instead cipher.

Remember that you have to type each character of your message in one different cell