



Tarea #6.

Alumno: Mario Gutierrez Leal  
Número de cuenta: 411078470

Bloque: 150

1.- Convertir 1110111 de base 2 a base 5.  
Primero convertimos  $1110111_2$  a base 10.

$$1110111_2 = 1x2^6 + 1x2^5 + 1x2^4 + 0x2^3 + 1x2^2 + 1x2^1 + 1x2^0$$

$$1110111_2 = 119_{10}$$

Ahora de  $X_{10}$  pasarlo a  $X_5$ :

$$119_{10} / 5 = 23.8, \text{ remanente} = 4.$$

$$23 / 5 = 4.6, \text{ remanente} = 3.$$

$$4 / 5 = 0.8, \text{ remanente} = 4.$$

$$119_{10} = 434_5$$

2.- Convertir 120 en base 3 a base 9.  
Convertir de  $X_3$  a  $X_{10}$ :

$$120_3 = 1x3^2 + 2x3^1 + 0x3^0$$

$$120_3 = 15_{10}$$

Finalmente de  $X_{10}$  a  $X_9$ :

$$15_{10} / 9 = 1.6, \text{ remanente} = 6.$$

$$1 / 9 = 0.1, \text{ remanente} = 1.$$

$$15_{10} = 16_9$$

3.- Convertir AABB de base 12 a base 2.

Para realizar la conversión con éxito de  $X_{12}$  a  $X_{10}$ , tenemos que tomar en cuenta que  $A_{12} = 10_{10}$  y  $B_{12} = 11_{10}$ .

$$AABB_{12} = Ax12^3 + Ax12^2 + Bx12^1 + Bx12^0$$

$$AABB_{12} = 18863_{10}$$

De  $X_{10}$  a  $X_2$ :

$$18863_{10} / 2 = 9431.5, \text{ Remanente} = 1$$

$$9431 / 2 = 4715.5, \text{ Remanente} = 1$$

$$4715 / 2 = 2357.5, \text{ Remanente} = 1$$

$$2357 / 2 = 1178.5, \text{ Remanente} = 1$$

$$1178 / 2 = 589, \text{ Remanente} = 0$$

$$589 / 2 = 294.5, \text{ Remanente} = 1$$

$$294 / 2 = 147, \text{ Remanente} = 0$$

$$147 / 2 = 73.5, \text{ Remanente} = 1$$

$$73 / 2 = 36.5, \text{ Remanente} = 1$$

$$36 / 2 = 18, \text{ Remanente} = 0$$

$$18 / 2 = 9, \text{ Remanente} = 0$$

$$9 / 2 = 4.5, \text{ Remanente} = 1$$

$$\begin{array}{ll} 4/2= 2 & ,\text{Remanente} = \mathbf{0} \\ 2/2= 1 & ,\text{Remanente} = \mathbf{0} \\ 1/2= 0.5 & ,\text{Remanente} = \mathbf{1} \end{array}$$

Finalmente tenemos:

$$\mathbf{18863}_{10} = \mathbf{100100110101111}_2.$$