

PROYECTO A

Sistema adivinador de números

OBJETIVO:

El alumno entenderá el concepto de valor posicional y valor absoluto de los números binarios.

ESPECIFICACIONES.

Diseñar un circuito lógico mediante el cual, cualquier persona piense en un número (del cero al 9), y después de 4 preguntas en un display de 7 segmentos se vea el número que se pensó.

DIAGRAMA DE BLOQUES.

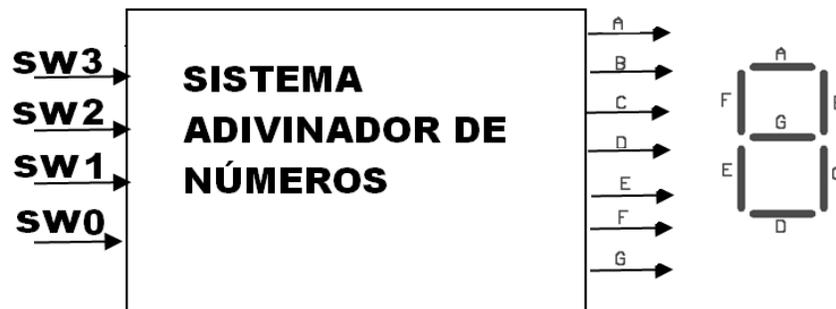


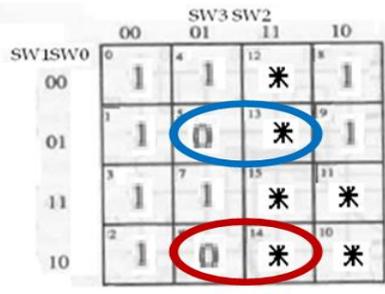
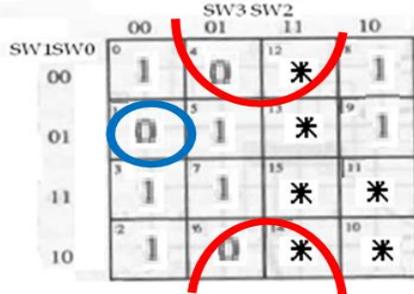
TABLA DE VERDAD.

SW3	SW2	SW1	SW4	A	B	C	D	E	F	G
0	0	0	0	1	1	1	1	1	1	0
0	0	0	1	0	1	1	0	0	0	0
0	0	1	0	1	1	0	1	1	0	1
0	0	1	1	1	1	1	1	0	0	1
0	1	0	0	0	1	1	0	0	1	1
0	1	0	1	1	0	1	1	0	1	1
0	1	1	0	0	0	1	1	1	1	1
0	1	1	1	1	1	1	0	0	0	0
1	0	0	0	1	1	1	1	1	1	1
1	0	0	1	1	1	1	0	0	1	1
1	0	1	0	*	*	*	*	*	*	*
1	0	1	1	*	*	*	*	*	*	*
1	1	0	0	*	*	*	*	*	*	*
1	1	0	1	*	*	*	*	*	*	*
1	1	1	0	*	*	*	*	*	*	*
1	1	1	1	*	*	*	*	*	*	*

MAPAS DE KARAUUGH.

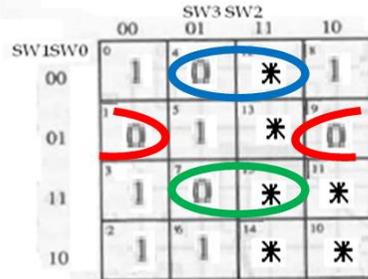
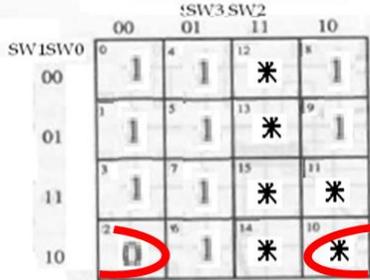
$$A = (SW3+SW2+SW1+\overline{SW0})(\overline{SW2} + SW0)$$

$$B = (\overline{SW2}+SW1+\overline{SW0})(\overline{SW2}+\overline{SW1}+SW0)$$



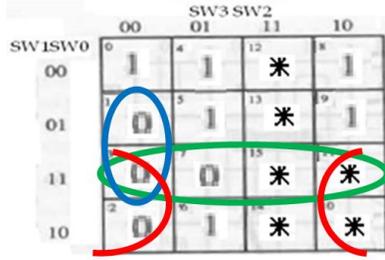
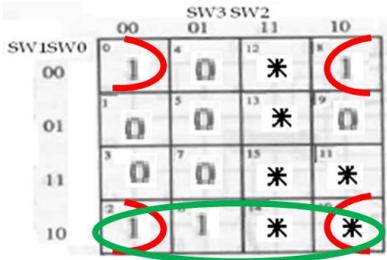
$$C = SW2 + \overline{SW1} + SW0$$

$$D = (SW2+SW1+\overline{SW0})(\overline{SW2}+SW1+SW0)(\overline{SW2}+\overline{SW1}+SW0)$$



$$E = SW1\overline{SW0} + \overline{SW2}SW0$$

$$F = (\overline{SW1}+\overline{SW0})(SW2+\overline{SW0})(SW3+SW2+\overline{SW0})$$



$$G = (SW3+SW2+SW1)(\overline{SW2}+\overline{SW1}+\overline{SW0})$$

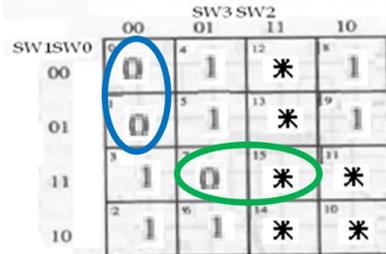


DIAGRAMA LÓGICO

