



FUNDAMENTOS DE COMPUTADORES

CUADERNO DE LA PRÁCTICA 1

Tabla de verdad del comparador

| A ₁ | A ₀ | B ₁ | B ₀ | Z |
|----------------|----------------|----------------|----------------|---|
| 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 1 | |
| 0 | 0 | 1 | 0 | |
| 0 | 0 | 1 | 1 | |
| 0 | 1 | 0 | 0 | |
| 0 | 1 | 0 | 1 | |
| 0 | 1 | 1 | 0 | |
| 0 | 1 | 1 | 1 | |
| 1 | 0 | 0 | 0 | |
| 1 | 0 | 0 | 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 | |

Mapa de Karnaugh

| | | | | | |
|----------------------|----|----|----|----------------------|--|
| | | | | B ₁ _____ | |
| B ₀ _____ | | | | | |
| 0 | 1 | 3 | 2 | A ₀ | |
| 4 | 5 | 7 | 6 | A ₁ | |
| 12 | 13 | 15 | 14 | | |
| 8 | 9 | 11 | 10 | | |

Z =

Diseño

Indíquese para cada elemento y puerto el número de chip y pin correspondiente



FUNDAMENTOS DE COMPUTADORES

CUADERNO DE LA PRÁCTICA 2

**Tabla de verdad del
sumador completo de 1 bit**

| C _{in} | A | B | C _{out} | S |
|-----------------|---|---|------------------|---|
| 0 | 0 | 0 | | |
| 0 | 0 | 1 | | |
| 0 | 1 | 0 | | |
| 0 | 1 | 1 | | |
| 1 | 0 | 0 | | |
| 1 | 0 | 1 | | |
| 1 | 1 | 0 | | |
| 1 | 1 | 1 | | |

Mapas de Karnaugh

| | | | |
|-----------------|---|---|---|
| A _____ | | | |
| B _____ | | | |
| | | | |
| 0 | 1 | 3 | 2 |
| | | | |
| 4 | 5 | 7 | 6 |
| C _{in} | | | |

S =

| | | | |
|-----------------|---|---|---|
| A _____ | | | |
| B _____ | | | |
| | | | |
| 0 | 1 | 3 | 2 |
| | | | |
| 4 | 5 | 7 | 6 |
| C _{in} | | | |

C_{out} =

Diseño del sumador completo de 1 bit

Indíquese para cada elemento y puerto el número de chip y pin correspondiente

Tabla de verdad del sumador de 2 bits

| Cin | A ₁ | A ₀ | B ₁ | B ₀ | Cout | S ₁ | S ₀ |
|-----|----------------|----------------|----------------|----------------|------|----------------|----------------|
| 0 | 0 | 0 | 0 | 0 | | | |
| 0 | 0 | 0 | 0 | 1 | | | |
| 0 | 0 | 0 | 1 | 0 | | | |
| 0 | 0 | 0 | 1 | 1 | | | |
| 0 | 0 | 1 | 0 | 0 | | | |
| 0 | 0 | 1 | 0 | 1 | | | |
| 0 | 0 | 1 | 1 | 0 | | | |
| 0 | 0 | 1 | 1 | 1 | | | |
| 0 | 1 | 0 | 0 | 0 | | | |
| 0 | 1 | 0 | 0 | 1 | | | |
| 0 | 1 | 0 | 1 | 0 | | | |
| 0 | 1 | 0 | 1 | 1 | | | |
| 0 | 1 | 1 | 0 | 0 | | | |
| 0 | 1 | 1 | 0 | 1 | | | |
| 0 | 1 | 1 | 1 | 0 | | | |
| 0 | 1 | 1 | 1 | 1 | | | |

| Cin | A ₁ | A ₀ | B ₁ | B ₀ | Cout | S ₁ | S ₀ |
|-----|----------------|----------------|----------------|----------------|------|----------------|----------------|
| 1 | 0 | 0 | 0 | 0 | | | |
| 1 | 0 | 0 | 0 | 1 | | | |
| 1 | 0 | 0 | 1 | 0 | | | |
| 1 | 0 | 0 | 1 | 1 | | | |
| 1 | 0 | 1 | 0 | 0 | | | |
| 1 | 0 | 1 | 0 | 1 | | | |
| 1 | 0 | 1 | 1 | 0 | | | |
| 1 | 0 | 1 | 1 | 1 | | | |
| 1 | 1 | 0 | 0 | 0 | | | |
| 1 | 1 | 0 | 0 | 1 | | | |
| 1 | 1 | 0 | 1 | 0 | | | |
| 1 | 1 | 0 | 1 | 1 | | | |
| 1 | 1 | 1 | 0 | 0 | | | |
| 1 | 1 | 1 | 0 | 1 | | | |
| 1 | 1 | 1 | 1 | 0 | | | |
| 1 | 1 | 1 | 1 | 1 | | | |

Diseño del sumador de 2 bits

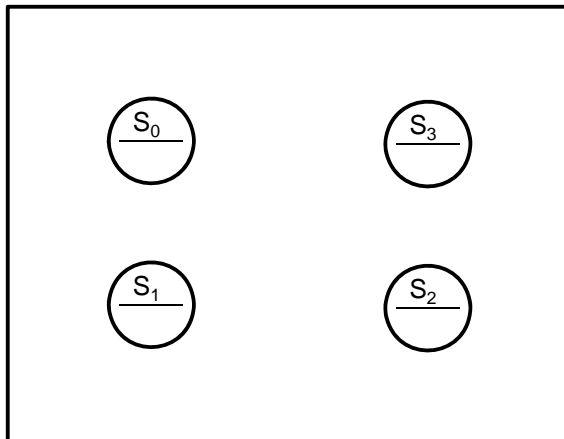
Indíquese para cada elemento y puerto el número de chip y pin correspondiente



FUNDAMENTOS DE COMPUTADORES

CUADERNO DE LA PRÁCTICA 3

Diagrama de estados



| Estado | Significado |
|--------|------------------------------|
| S_0 | estado inicial |
| S_1 | ha llegado el subpatrón (0) |
| S_2 | ha llegado el subpatrón (01) |
| S_3 | ha llegado el patrón (010) |

Codificación de estados

| Estado | s_1 | s_0 |
|--------|-------|-------|
| S_0 | | |
| S_1 | | |
| S_2 | | |
| S_3 | | |

Tabla de verdad de la función de transición de estados

| s_1 | s_0 | x | s_1' | s_0' |
|-------|-------|-----|--------|--------|
| 0 | 0 | 0 | | |
| 0 | 0 | 1 | | |
| 0 | 1 | 0 | | |
| 0 | 1 | 1 | | |
| 1 | 0 | 0 | | |
| 1 | 0 | 1 | | |
| 1 | 1 | 0 | | |
| 1 | 1 | 1 | | |

Tabla verdad de la función de salida

| s_1 | s_0 | z |
|-------|-------|-----|
| 0 | 0 | |
| 0 | 1 | |
| 1 | 0 | |
| 1 | 1 | |

Mapas de Karnaugh

| | | | |
|-----------------|---|---|---|
| x s_0 _____ | | | |
| | | | |
| 0 | 1 | 3 | 2 |
| | | | |
| 4 | 5 | 7 | 6 |
| s_1 _____ | | | |

| | | | |
|-----------------|---|---|---|
| x s_0 _____ | | | |
| | | | |
| 0 | 1 | 3 | 2 |
| | | | |
| 4 | 5 | 7 | 6 |
| s_1 _____ | | | |

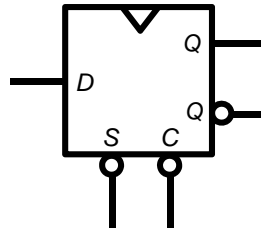
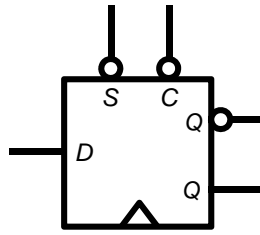
| | |
|-------------|---|
| s_0 _____ | |
| | |
| 0 | 1 |
| | |
| 2 | 3 |
| s_1 _____ | |

$s_1' =$

$s_0' =$

$z =$

Diseño

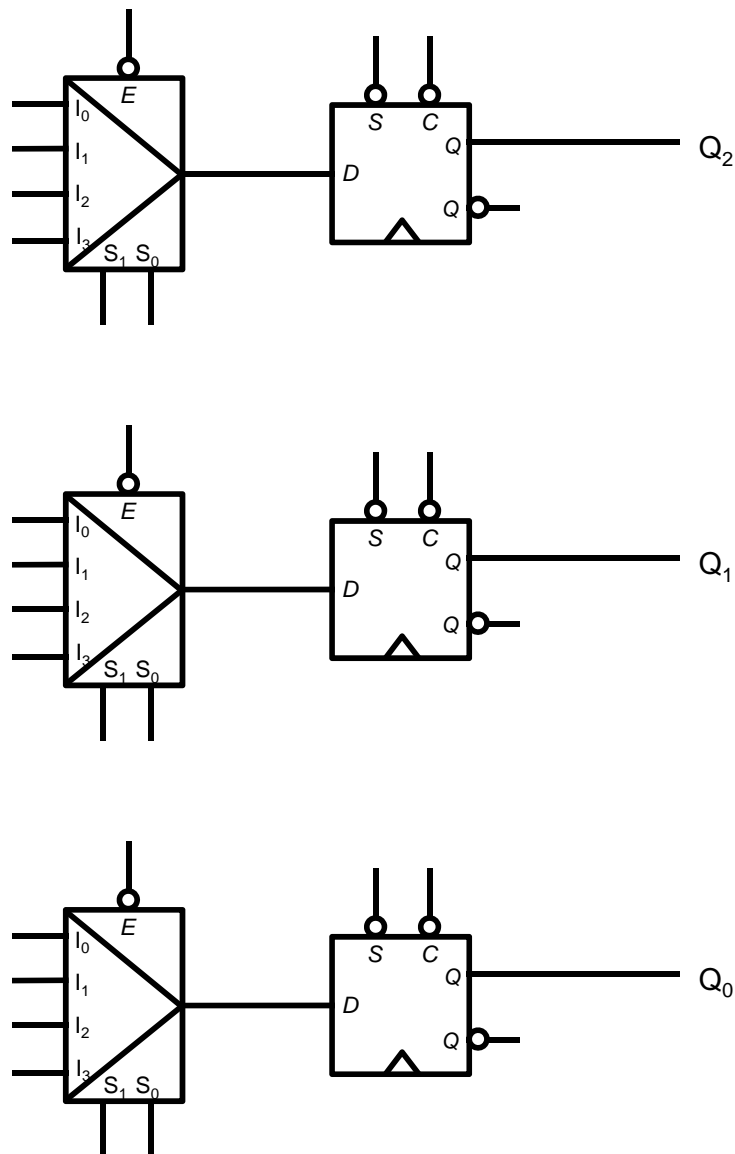


Indíquese para cada elemento y puerto el número de chip y pin correspondiente



FUNDAMENTOS DE COMPUTADORES CUADERNO DE LA PRÁCTICA 4

Diseño



Indíquese para cada elemento y puerto el número de chip y pin correspondiente

