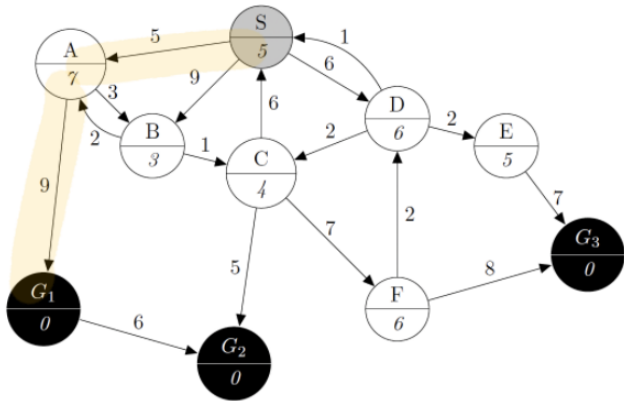


1. BÚSQUEDA EN ANCHURA



- Orden en que se cerrados:
S, A
- Objetivo alcanzado: G_1
- Solución: $S \rightarrow A \rightarrow G_1$

ABIERTOS

~~(S, \emptyset)~~

~~(A, S)~~

(B, S)

(D, S)

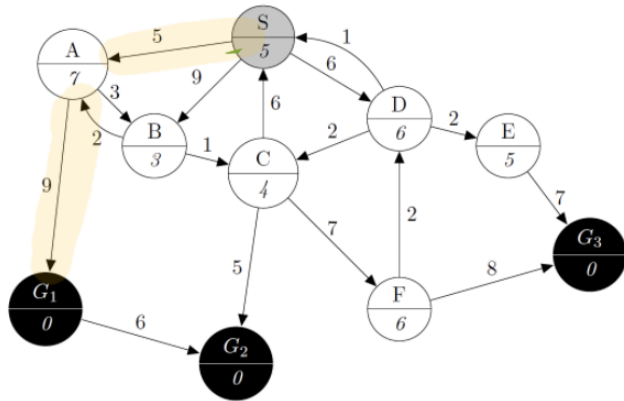
(G₁, A)

CERRADOS

(S, \emptyset)

(A, S)

2. DESCENSO ITERATIVO



• G_1

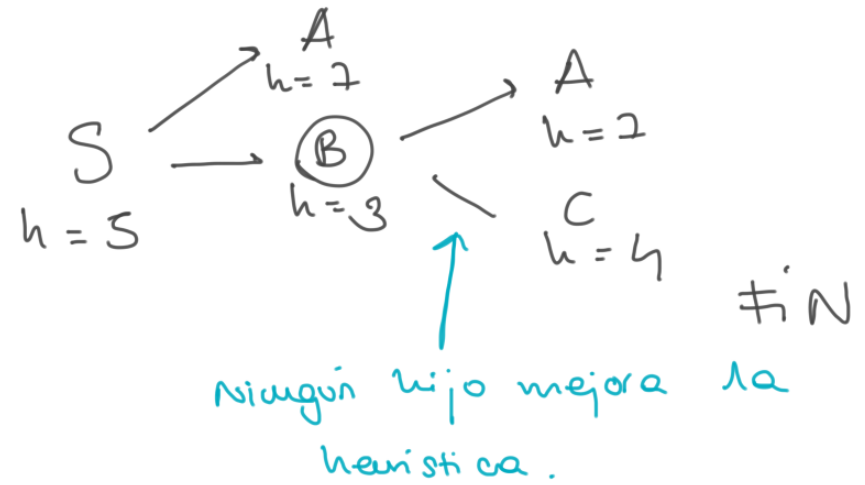
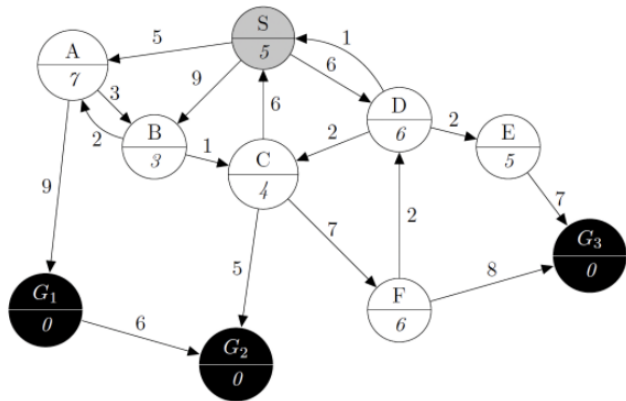
NIVEL 1: $S \rightarrow A$

~~B~~

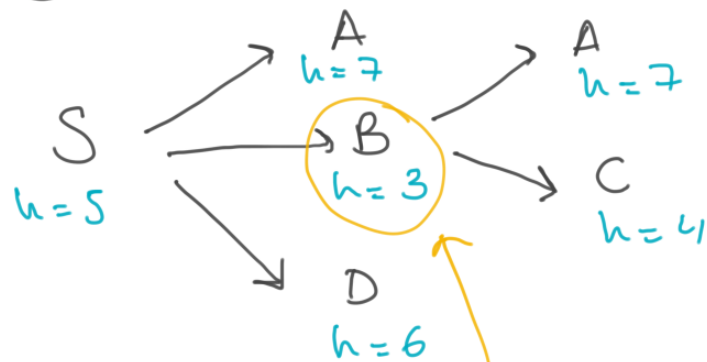
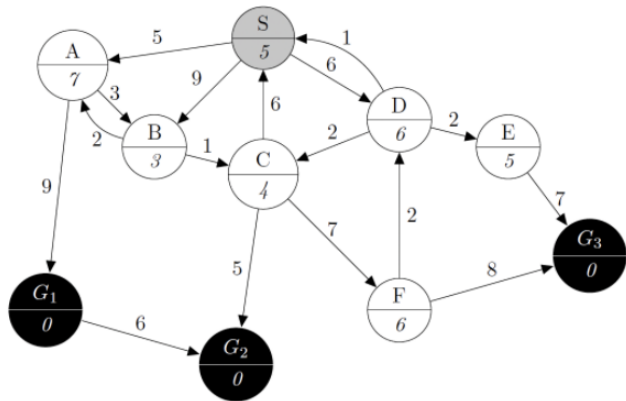
~~D~~

NIVEL 2: $S \rightarrow A \rightarrow B$
 $\rightarrow G_1$

3. ESCALADA SIMPLE



4. ESCALADA MÁXIMA PENDIENTE



FIN

Expando todos los hijos
y elijo el más prometedor.

(inciso)

EJERCICIO 22 : ENFRIAMIENTO SIMULADO.

$$\text{a) } \underset{h=5}{S} \longrightarrow \underset{h=7}{A}$$

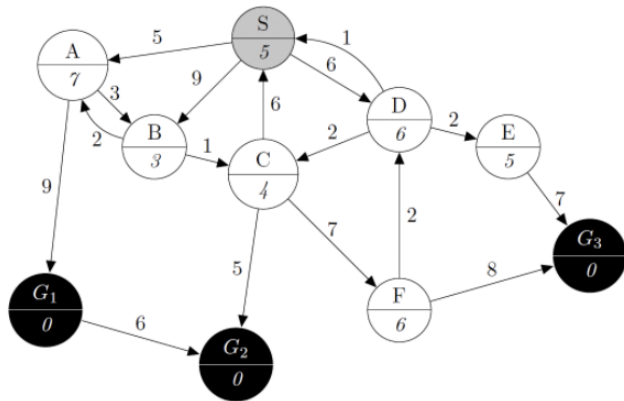
$$P(S \rightarrow A) = e^{\frac{-\Delta e_H}{T}} = e^{\frac{-2}{10}} \approx 0.82$$

$$\text{b) } \underset{h=7}{A} \longrightarrow \underset{h=3}{B}$$

$$P(A \rightarrow B) = 1$$

↑
Se mejora en heurística

5. A*

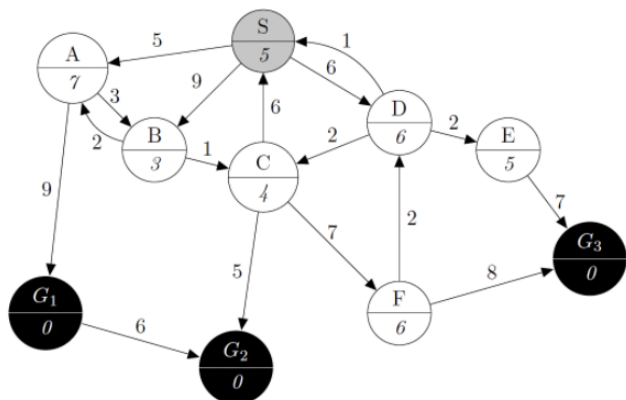


¿Admissible? $h(x) \leq h^*(x)$

¿Monótona?

$h(x) - h(y) \leq c(x, y)$

5. A*



¿Admissible? $h(x) \leq h^*(x)$

¿Monótona?

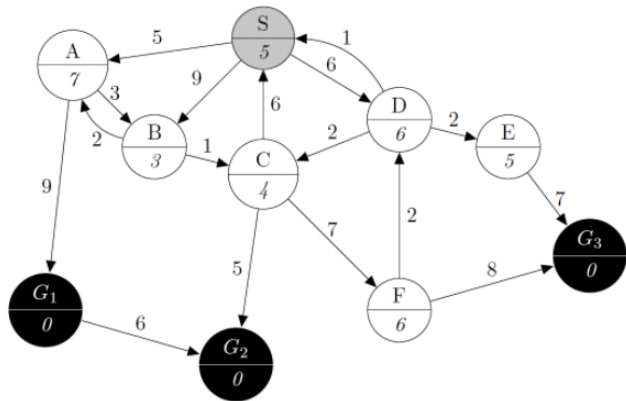
$$h(x) - h(y) \leq c(x, y)$$

NO A y B

$$h(A) - h(B) \leq c(A, B)$$

$$7 - 3 = 4 \leq 3$$

5. A*



ABIERTOS
(S, \emptyset , 0, 5)

CERRADOS

¿Admissible? $h(x) \leq h^*(x)$

¿Monótona?

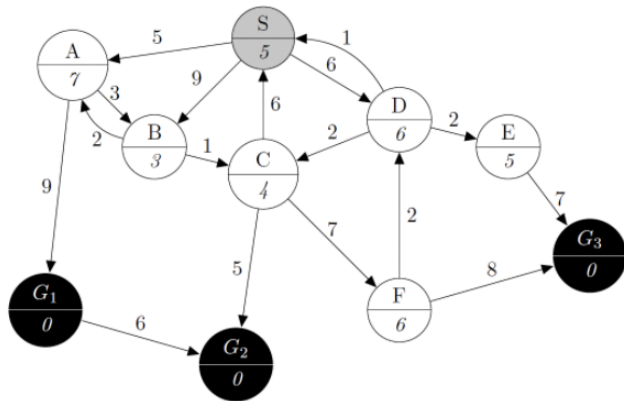
$$h(x) - h(y) \leq c(x, y)$$

NO A y B

$$h(A) - h(B) \leq c(A, B)$$

$$7 - 3 = 4 \leq 3$$

5. A*



ABIERTOS

~~(S, ∅, 0, 5)~~

(A, S, 5, 7)

(B, S, 9, 3)

(D, S, 6, 6)

CERRADOS

(S, ∅, 0, 5)

¿Admissible? $h(x) \leq h^*(x)$

¿Monótona?

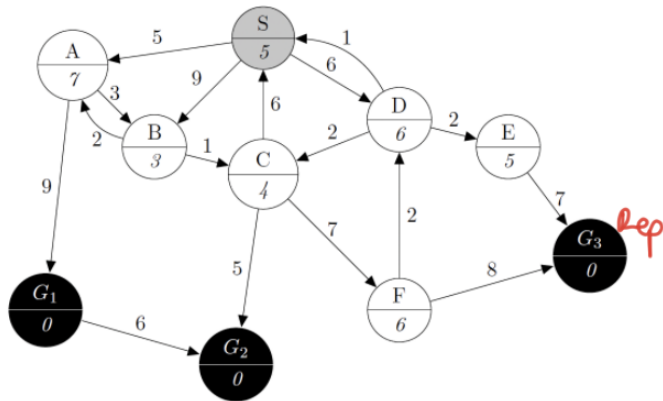
$$h(x) - h(y) \leq c(x, y)$$

NO A y B

$$h(A) - h(B) \leq c(A, B)$$

$$7 - 3 = 4 \leq 3$$

5. A*



ABIERTOS

~~(S, ∅, 0, 5)~~

~~(A, S, 5, 7)~~

(B, S, 9, 3)

(D, S, 6, 6)

(B, A, 8, 3)

(G1, A, 14, 0)

CERRADOS

(S, ∅, 0, 5)

(A, S, 5, 7)

¿Admissible? $h(x) \leq h^*(x)$

¿Monótona?

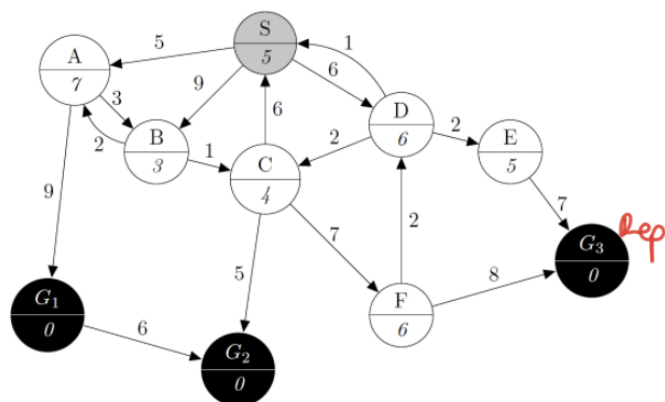
$$h(x) - h(y) \leq c(x, y)$$

NO A y B

$$h(A) - h(B) \leq c(A, B)$$

$$7 - 3 = 4 \leq 3$$

5. A^*



ABIERTOS

~~(S, ∅, 0, 5)~~

~~(A, S, 5, 7)~~

~~(B, S, 9, 3)~~

(D, S, 6, 6)

~~(B, A, 8, 3)~~

(G1, A, 14, 0)

(C, B, 9, 4)

CERRADOS

(S, ∅, 0, 5)

(A, S, 5, 7) (A, B, 10, 7)

(B, A, 8, 3)

¿Admissible? $h(x) \leq h^*(x)$

¿Monótona?

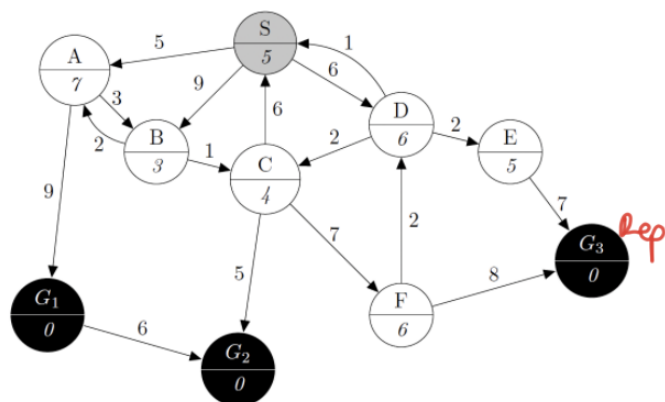
$$h(x) - h(y) \leq c(x, y)$$

NO A y B

$$h(A) - h(B) \leq c(A, B)$$

$$7 - 3 = 4 \leq 3$$

5. A*



ABIERTOS

~~(S, ∅, 0, 5)~~

~~(A, S, 5, 7)~~

~~(B, S, 9, 3)~~

~~(D, S, 6, 6)~~

~~(B, A, 8, 3)~~

~~(G1, A, 14, 0)~~

~~(C, B, 9, 4)~~

~~(C, D, 8, 4)~~

~~(E, D, 8, 5)~~

CERRADOS Ni fauto

(S, ∅, 0, 5) (S, D, 7, 5)

(A, S, 5, 7) ~~(A, B, 10, 7)~~

(B, A, 8, 3)

(D, S, 6, 6)

¿Admissible? $h(x) \leq h^*(x)$

¿Monótona?

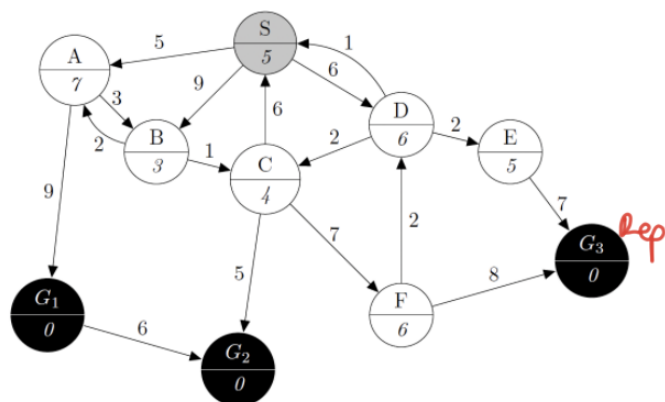
$$h(x) - h(y) \leq c(x, y)$$

NO A y B

$$h(A) - h(B) \leq c(A, B)$$

$$7 - 3 = 4 \leq 3$$

5. A^*



ABIERTOS

~~(S, ∅, 0, 5)~~

~~(A, S, 5, 7)~~

~~(B, S, 9, 3)~~

~~(D, S, 6, 6)~~

~~(B, A, 8, 3)~~

(G1, A, 14, 0)

~~(C, B, 9, 4)~~

~~(C, D, 8, 4)~~

(E, D, 8, 5)

CERRADOS Ni fauto

~~(S, ∅, 0, 5)~~ ~~(S, D, 7, 5)~~

~~(A, S, 5, 7)~~ ~~(A, B, 10, 7)~~

(B, A, 8, 3)

(D, S, 6, 6)

¿Admissible? $h(x) \leq h^*(x)$

¿Monótona?

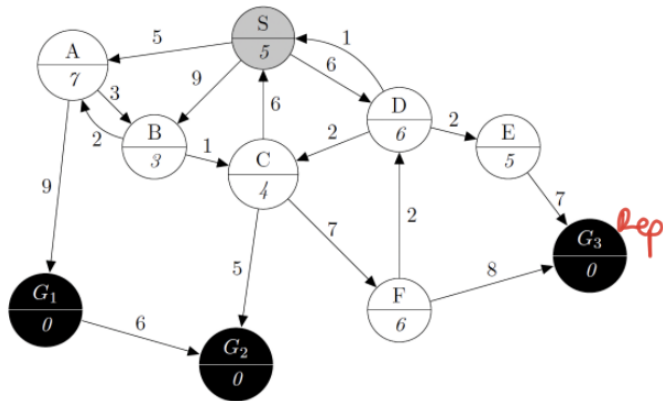
$$h(x) - h(y) \leq c(x, y)$$

NO A y B

$$h(A) - h(B) \leq c(A, B)$$

$$7 - 3 = 4 \leq 3$$

5. A*



ABIERTOS

~~(S, ∅, 0, 5)~~

~~(A, S, 5, 7)~~

~~(B, S, 9, 3)~~

~~(D, S, 6, 6)~~

~~(B, A, 8, 3)~~

(G1, A, 14, 0)

~~(C, B, 9, 4)~~

~~(C, D, 8, 4)~~

(E, D, 8, 5)

(G2, C, 13, 0)

(F, C, 15, 6)

CERRADOS Ni fauto

~~(S, ∅, 0, 5)~~ ~~(S, D, 7, 5)~~

~~(A, S, 5, 7)~~ ~~(A, B, 10, 7)~~

(B, A, 8, 3)

(D, S, 6, 6)

(C, D, 8, 4)

¿Admissible? $h(x) \leq h^*(x)$

¿Monótona?

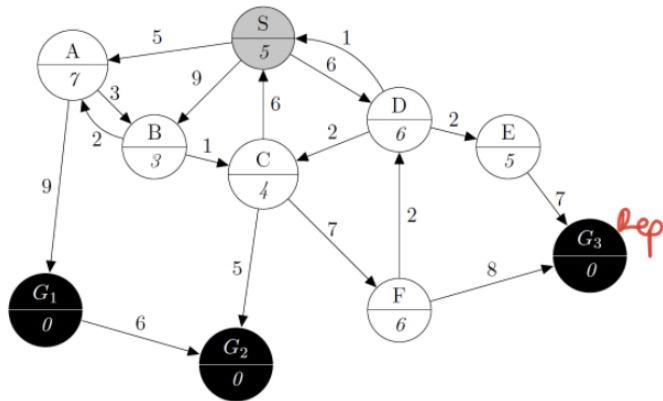
$$h(x) - h(y) \leq c(x, y)$$

NO A y B

$$h(A) - h(B) \leq c(A, B)$$

$$7 - 3 = 4 \leq 3$$

5. A^*



ABIERTOS

~~(S, ∅, 0, 5)~~

~~(A, S, 5, 7)~~

~~(B, S, 9, 3)~~

~~(D, S, 6, 6)~~

~~(B, A, 8, 3)~~

(G1, A, 14, 0)

~~(C, B, 9, 4)~~

~~(C, D, 8, 4)~~

~~(E, D, 8, 5)~~

(G2, C, 13, 0)

(F, C, 15, 6)

(G3, E, 15, 0)

CERRADOS Ni fauto

~~(S, ∅, 0, 5)~~ ~~(S, D, 7, 5)~~

~~(A, S, 5, 7)~~ ~~(A, B, 10, 7)~~

(B, A, 8, 3)

(D, S, 6, 6)

(C, D, 8, 4)

(E, D, 8, 5)

¿Admissible? $h(x) \leq h^*(x)$

¿Monótona?

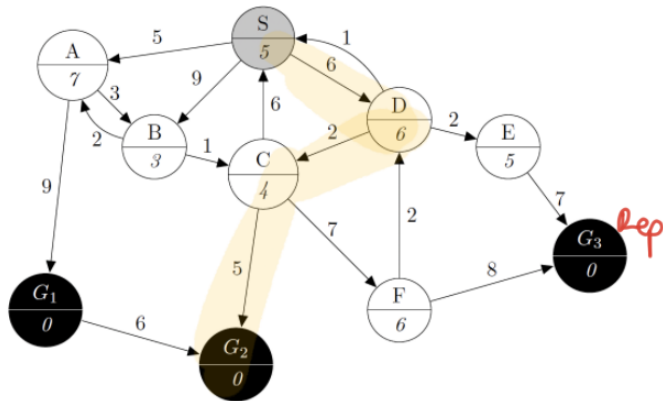
$$h(x) - h(y) \leq c(x, y)$$

NO A y B

$$h(A) - h(B) \leq c(A, B)$$

$$7 - 3 = 4 \leq 3$$

5. A^*



ABIERTOS

~~(S, ∅, 0, 5)~~

~~(A, S, 5, 7)~~

~~(B, S, 9, 3)~~

~~(D, S, 6, 6)~~

~~(B, A, 8, 3)~~

~~(G1, A, 14, 0)~~

~~(C, B, 9, 4)~~

~~(C, D, 8, 4)~~

~~(E, D, 8, 5)~~

~~(G2, C, 13, 0)~~

~~(F, C, 15, 6)~~

~~(G3, E, 15, 0)~~

~~(G3, F, 23, 0)~~

CERRADOS Ni fauto

~~(S, ∅, 0, 5)~~ ~~(S, D, 7, 6)~~

~~(A, S, 5, 7)~~ ~~(A, B, 10, 7)~~

~~(B, A, 8, 3)~~

~~(D, S, 6, 6)~~

~~(C, D, 8, 4)~~

~~(E, D, 8, 5)~~

(G2, C, 13, 0)

FIN

¿Admissible? $h(x) \leq h^*(x)$

¿Monótona?

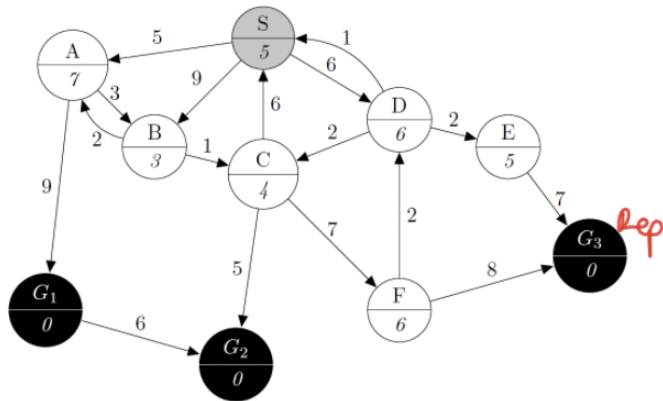
$$h(x) - h(y) \leq c(x, y)$$

NO A y B

$$h(A) - h(B) \leq c(A, B)$$

$$7 - 3 = 4 \leq 3$$

5. A^*



ABIERTOS

~~(S, ∅, 0, 5)~~

~~(A, S, 5, 7)~~

~~(B, S, 9, 3)~~

~~(D, S, 6, 6)~~

~~(B, A, 8, 3)~~

(G1, A, 14, 0)

~~(C, B, 9, 4)~~

~~(C, D, 8, 4)~~

~~(E, D, 8, 5)~~

~~(G2, C, 13, 0)~~

~~(F, C, 15, 6)~~

~~(G3, E, 10, 0)~~

CERRADOS Ni Auto

~~(S, ∅, 0, 5)~~ ~~(S, D, 7, 5)~~

~~(A, S, 5, 7)~~ ~~(A, B, 10, 7)~~

(B, A, 8, 3)

(D, S, 6, 6)

(C, D, 8, 4)

(E, D, 8, 5)

(G2, C, 13, 0)

FIN

¿Admissible? $h(x) \leq h^*(x)$

¿Monótona?

$h(x) - h(y) \leq c(x, y)$

NO A y B

$h(A) - h(B) \leq c(A, B)$

$7 - 3 = 4 \leq 3$