

# Actividad

- Revisa el código del Laboratorio de búsqueda no informada.
- Realiza modificaciones al código de BFS y DFS para mejorarlo.

Link:

[https://github.com/lfsalasnua/IA\\_explorador/blob/main/Laboratorio\\_B%C3%BAsqueda no informada Explorador IA%20 soluci%C3%B3n.ipynb](https://github.com/lfsalasnua/IA_explorador/blob/main/Laboratorio_B%C3%BAsqueda%20no%20informada/Explorador_IA%20soluci%C3%B3n.ipynb)

Link acortado

<https://acortar.link/h4M2Aw>

# Calcula la heurística

1. Distancia de manhattan (h1)
2. Piezas mal ubicadas (h2)

5	4	5
8	1	
3	7	2

1	2	3
4	5	6
7	8	

# Piezas mal ubicadas (h2)

1	2	3
4	5	6
7	8	

6	4	5
8	1	
3	7	2

6	2	7
4	5	
3	8	1

1	4	3
5	8	
7	2	6

5	2	3
4	6	
7	8	1

- $H2 = 8$
- $H2 = 5$
- $H2 = 4$
- $H2 = 3$

# Distancia Mnahattan =19

1	2	3
4	5	6
7	8	

6	4	5
8	1	
3	7	2

6	4	5
8	1	
3	7	2

6	4	5
8	1	
3	7	2

6	4	5
8	1	
3	7	2

6	4	5
8	1	
3	7	2

6	4	5
8	1	
3	7	2

6	4	5
8	1	
3	7	2

6	4	5
8	1	
3	7	2

# Distancia Mnahattan = 7

1	2	3
4	5	6
7	8	

1	4	3
5	8	
7	2	6

1	4	3
5	8	
7	2	6

1	4	3
5	8	
7	2	6

1	4	3
5	8	
7	2	6

1	4	3
5	8	
7	2	6

1	4	3
5	8	
7	2	6

1	4	3
5	8	
7	2	6

1	4	3
5	8	
7	2	6

Distancia Mnahattan = 15

1	2	3
4	5	6
7	8	

6	2	7
4	5	
3	8	1

6	2	7
4	5	
3	8	1

6	2	7
4	5	
3	8	1

6	2	7
4	5	
3	8	1

6	2	7
4	5	
3	8	1

6	2	7
4	5	
3	8	1

6	2	7
4	5	
3	8	1

6	2	7
4	5	
3	8	1

# Distancia Manhattan = 7

1	2	3
4	5	6
7	8	

5	2	3
4	6	
7	8	1

5	2	3
4	6	
7	8	1

5	2	3
4	6	
7	8	1

5	2	3
4	6	
7	8	1

5	2	3
4	6	
7	8	1

5	2	3
4	6	
7	8	1

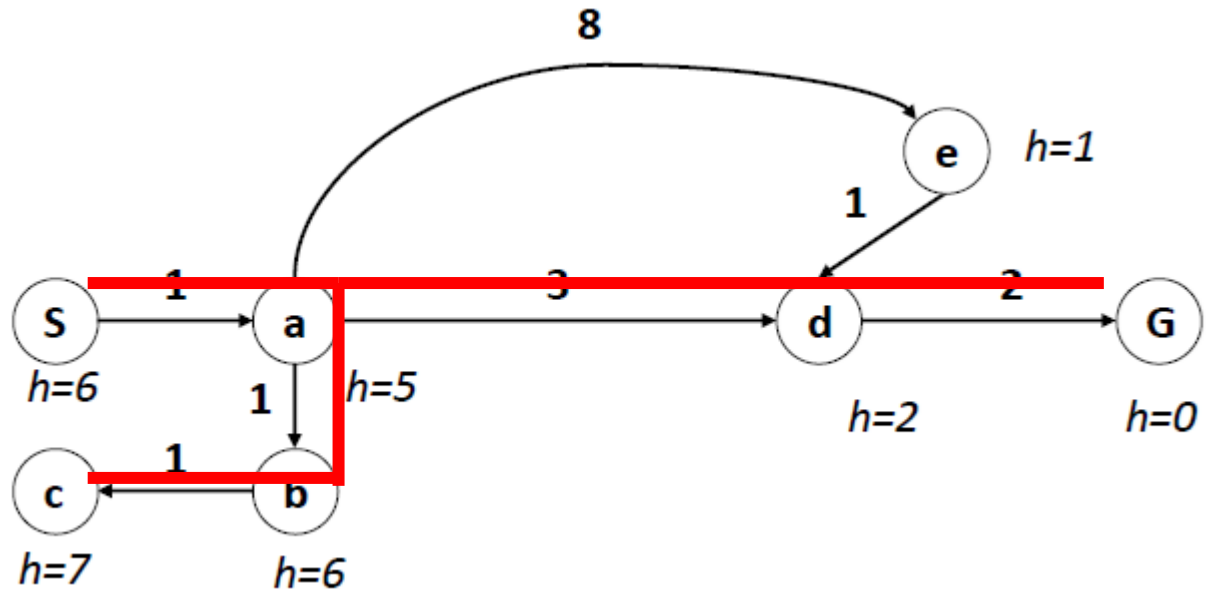
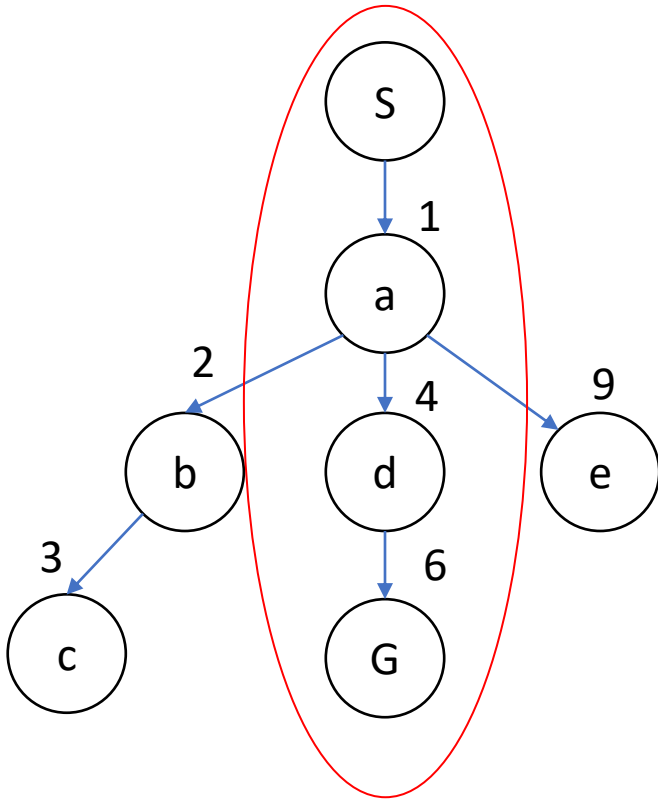
5	2	3
4	6	
7	8	1

5	2	3
4	6	
7	8	1

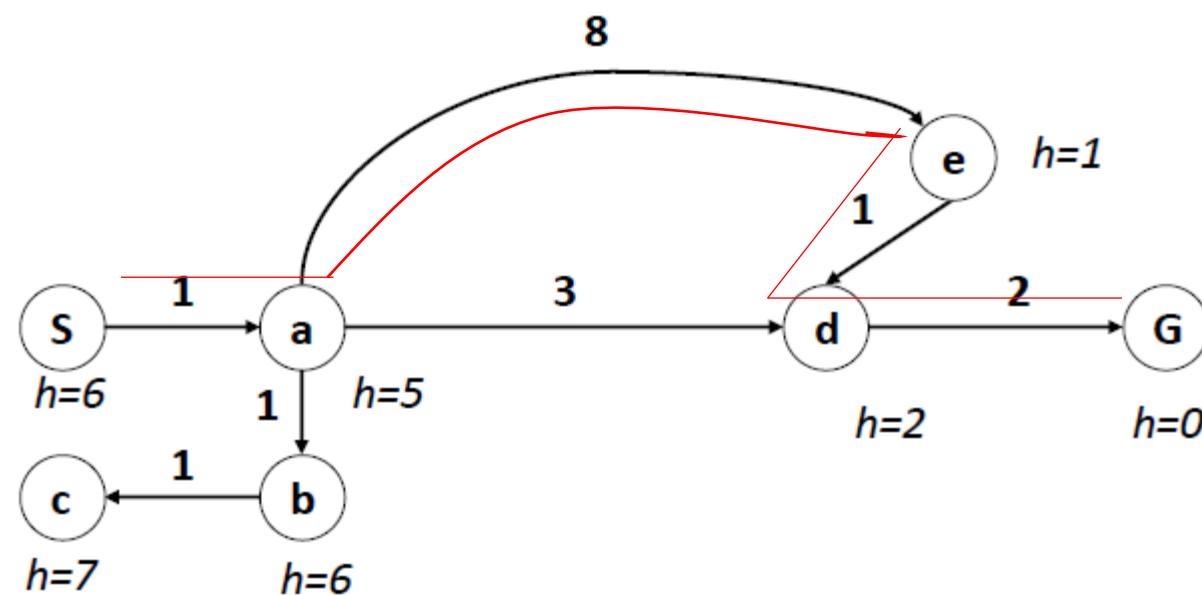
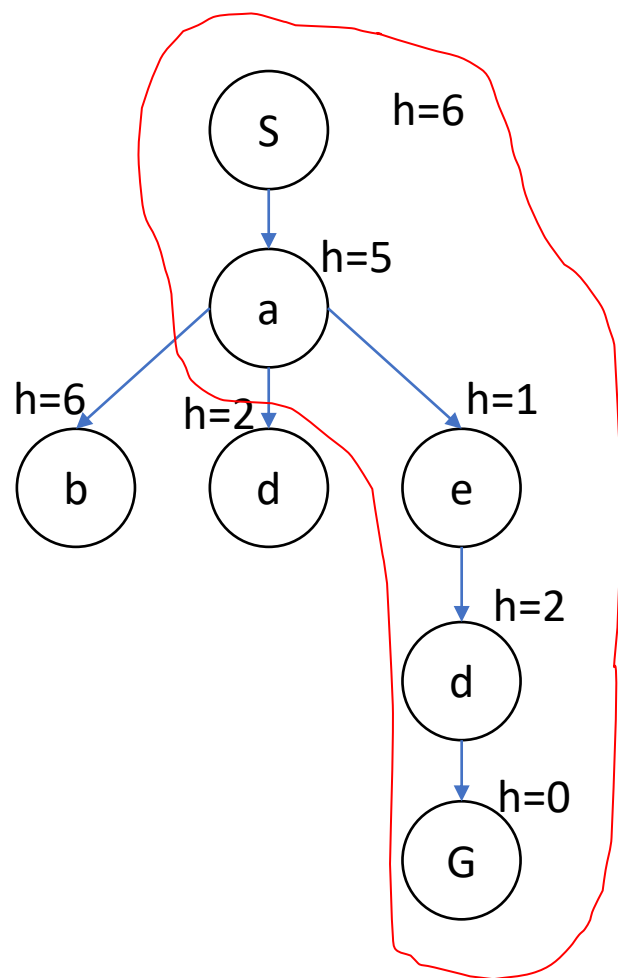
# Búsqueda Informada



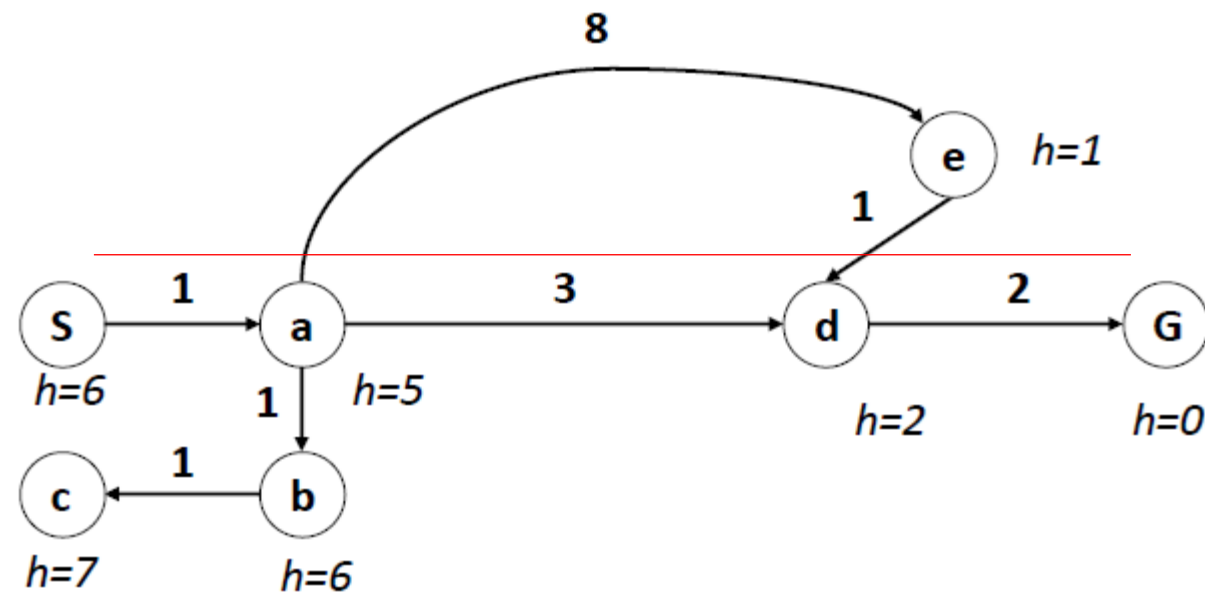
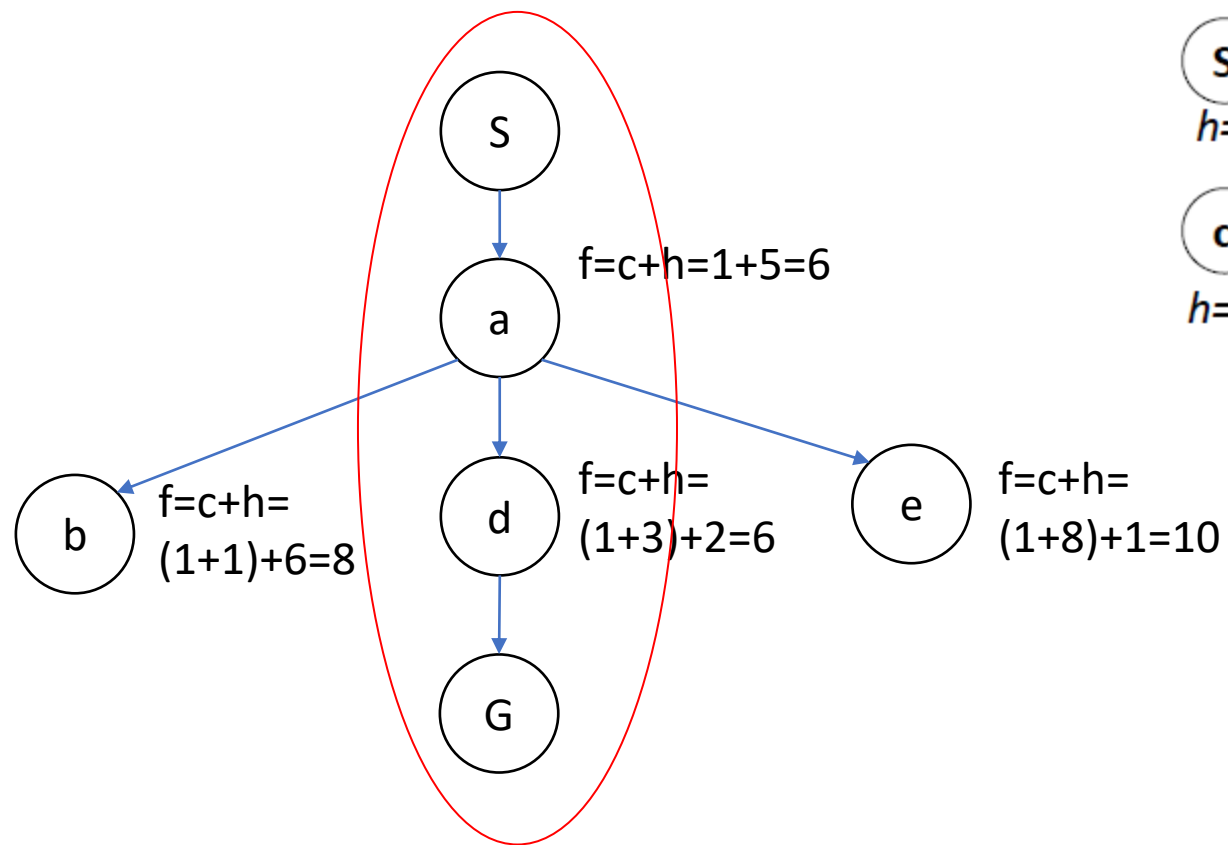
# Costo uniforme



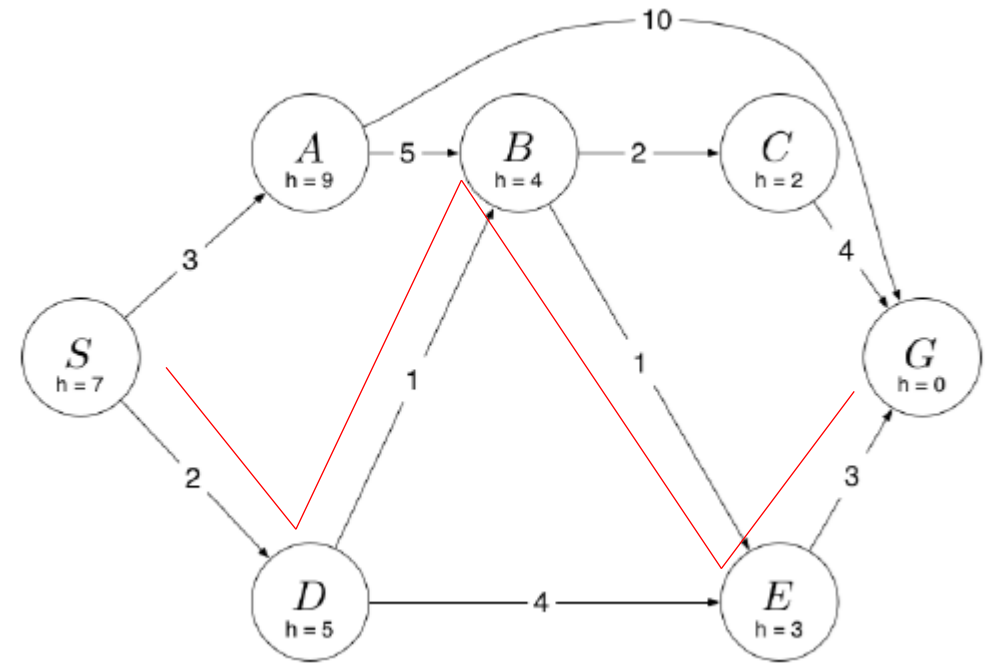
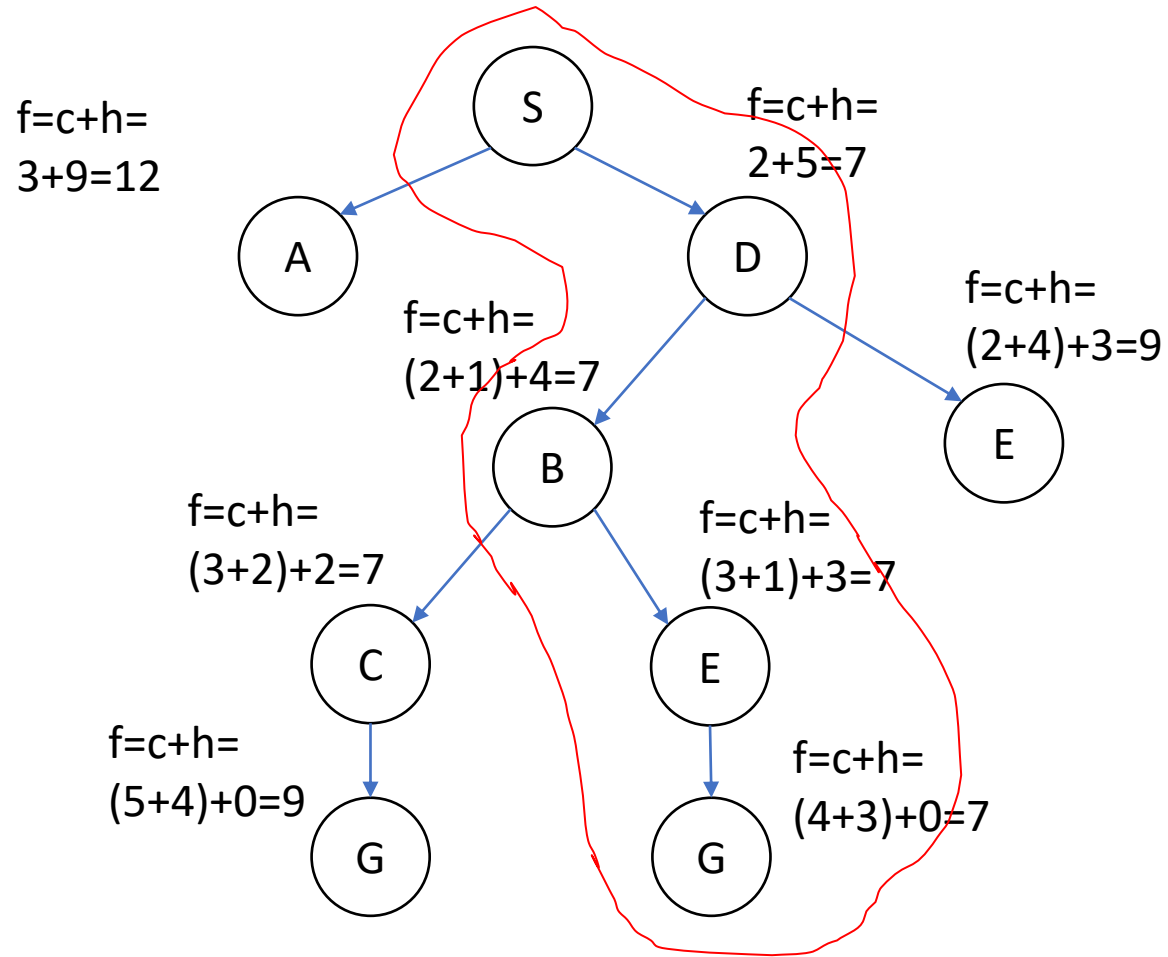
# Búsqueda voraz



$A^*$



# Algoritmo A\*



# Calcular la consistencia

$$h(S) - h(A) \leq C(S, A)$$

$$SA = 7 - 9 \leq 3, -2 \leq 3, \text{ True}$$

$$SD = 7 - 5 \leq 2, 2 \leq 2, \text{ True}$$

$$AB = 9 - 4 \leq 5, 5 \leq 5, \text{ True}$$

$$AG = 9 - 0 \leq 10, 9 \leq 10, \text{ True}$$

$$DB = 5 - 4 \leq 1, 1 \leq 1, \text{ True}$$

$$DE = 5 - 3 \leq 4, 2 \leq 4, \text{ True}$$

$$BC = 4 - 2 \leq 2, 2 \leq 2, \text{ True}$$

$$EG = 3 - 0 \leq 3, 3 \leq 3, \text{ True}$$

$$CG = 2 - 0 \leq 4, 2 \leq 4, \text{ True}$$

