

AYUDANTÍA I3

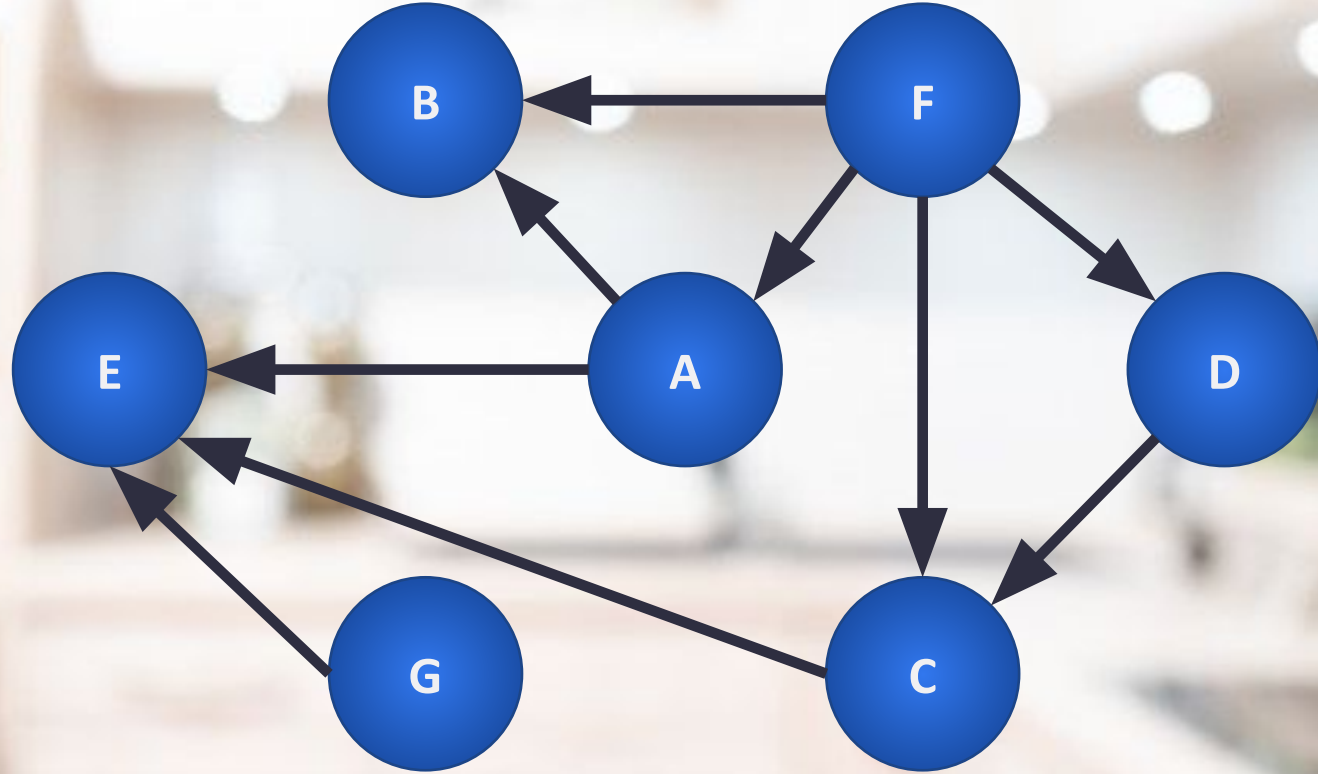
aiuda amá no se cocinar



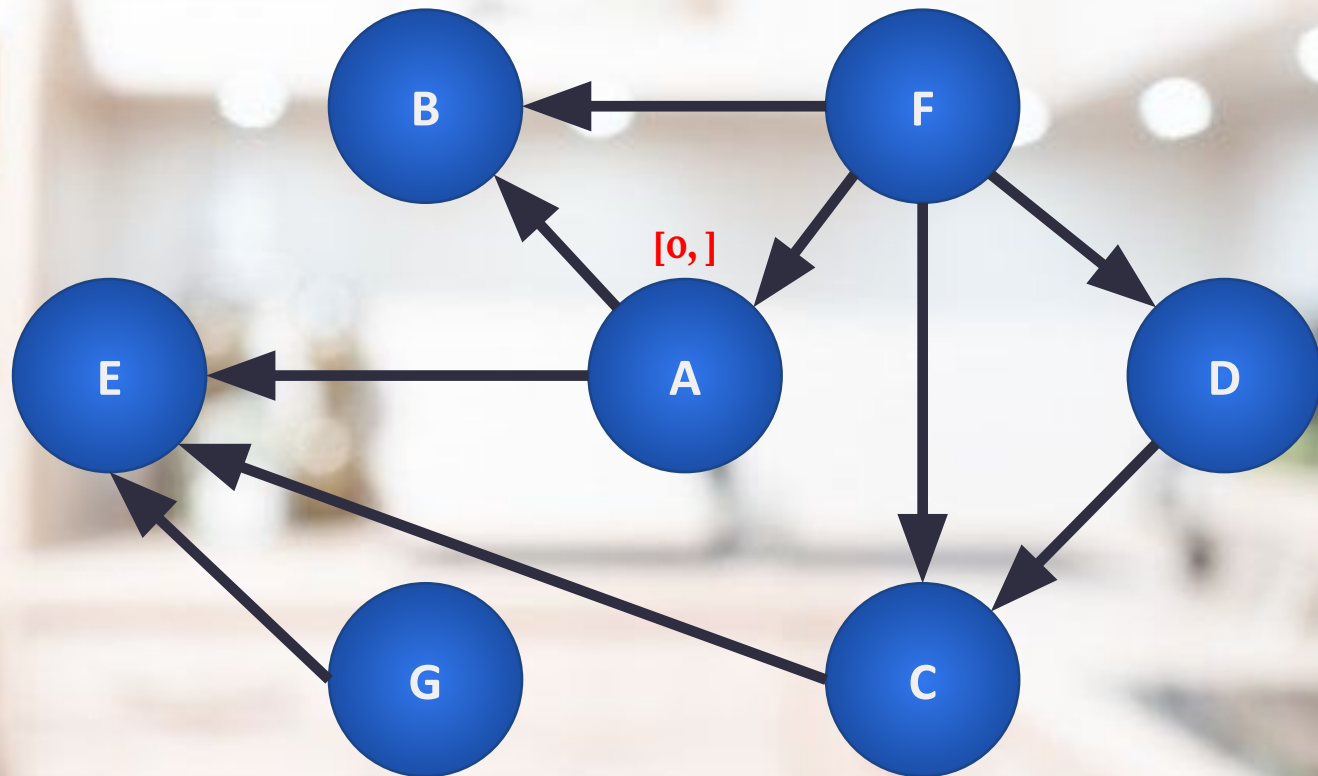
Mi mamá me mandó una receta de cocina pero se la pasaba enredándose y me terminó dando todos los pasos en desorden.

¿Cómo podemos reordenar la receta?

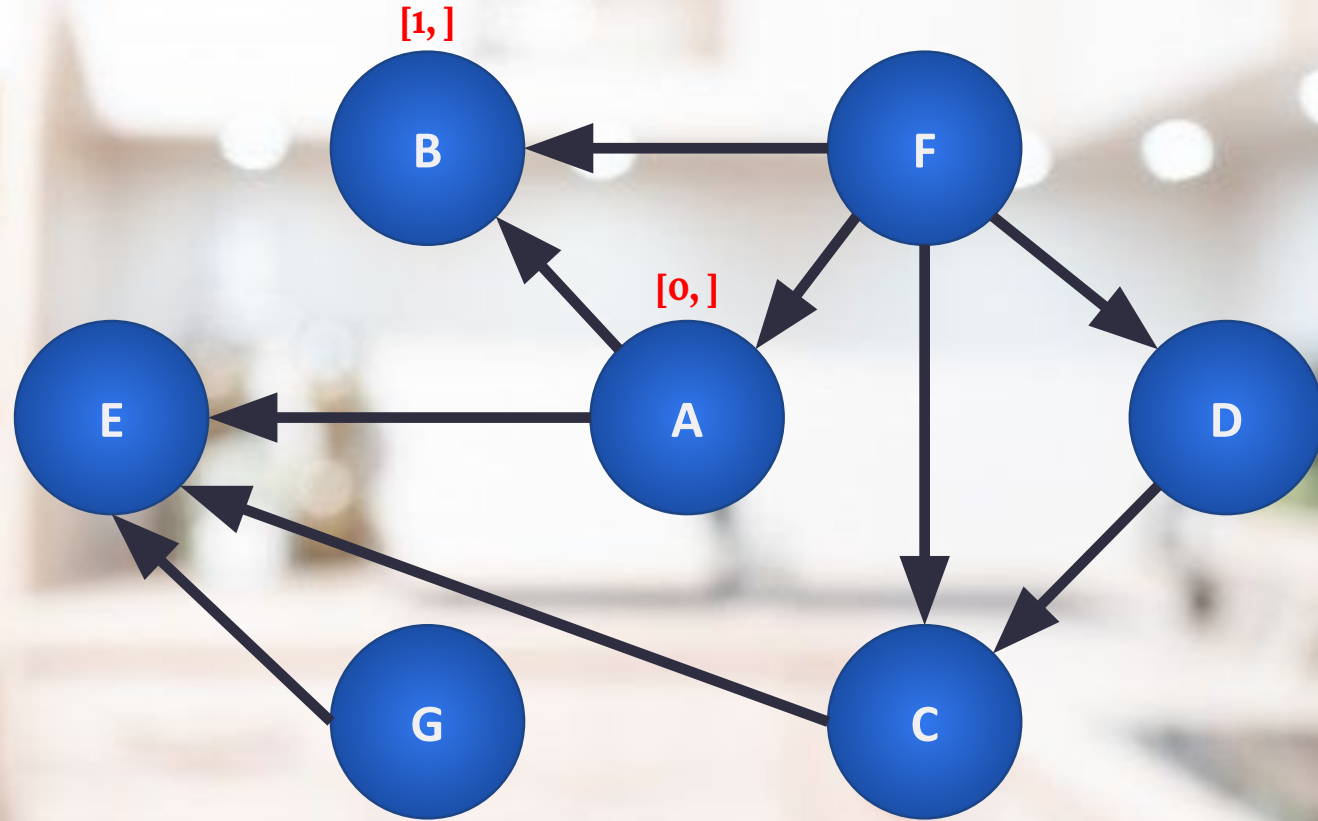
- ...
- Echar las manzanas salteadas sobre la masa en la fuente
- Con el aceite, engrasar la fuente
- Saltear las manzanas picadas con el azúcar y el aceite
- Mezclar la harina, el azúcar, el huevo y el aceite para hacer la masa
- ...



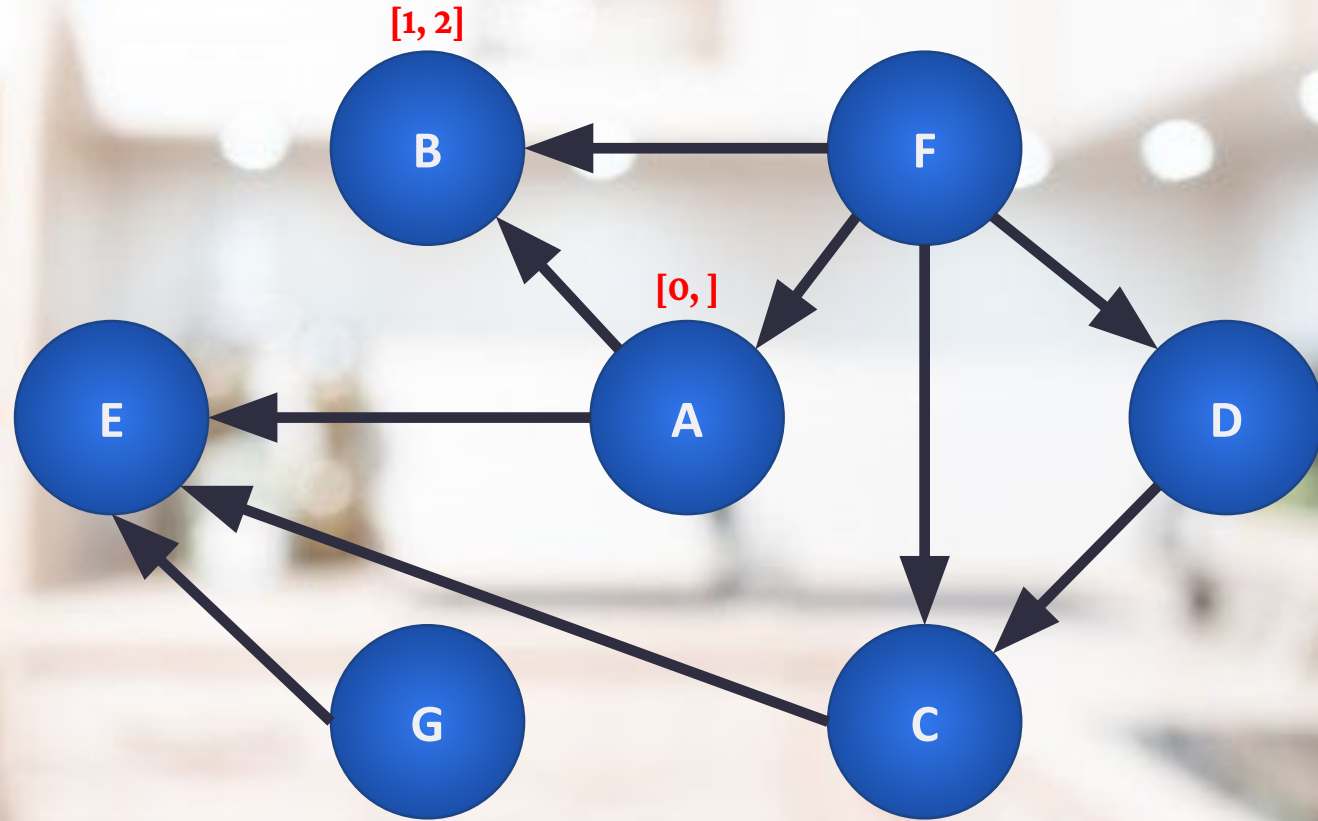
$L = []$



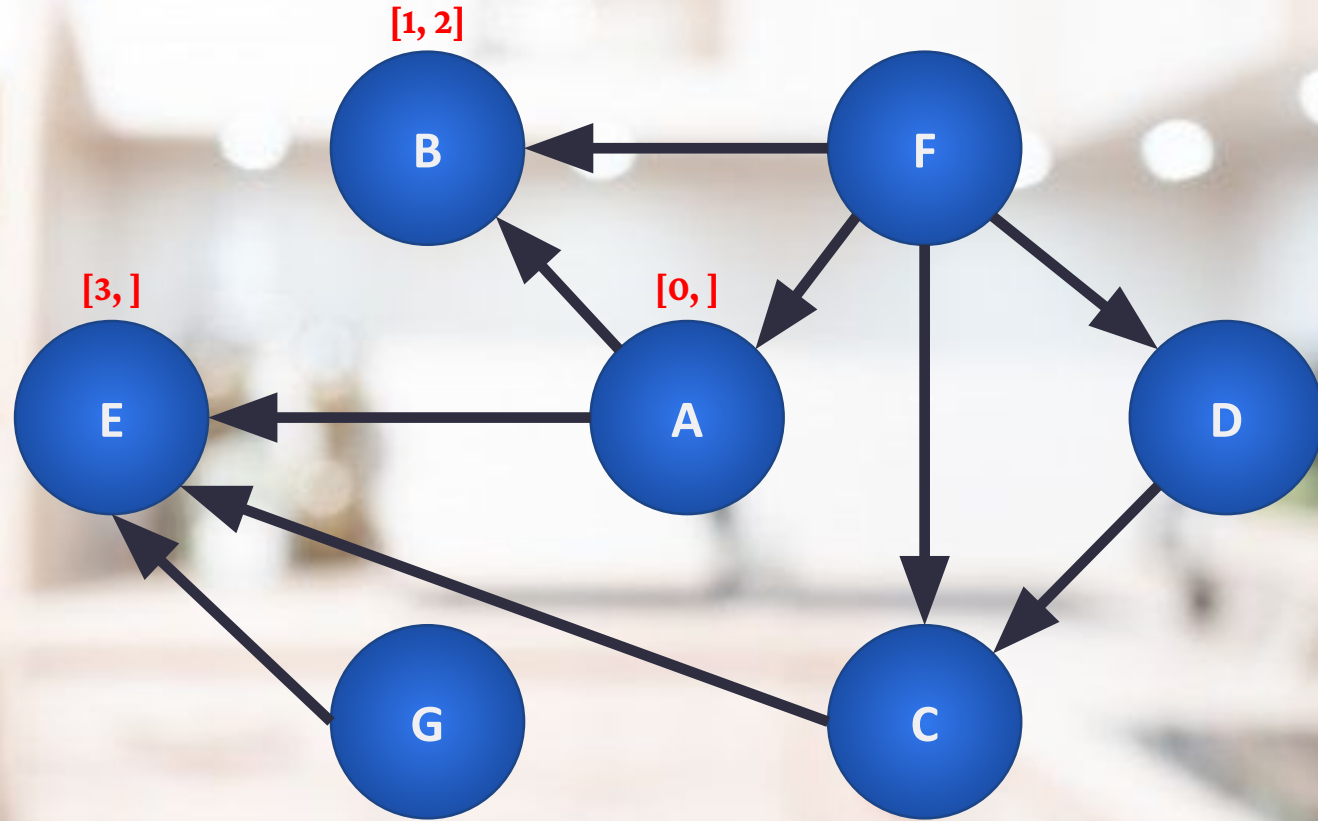
$L = []$



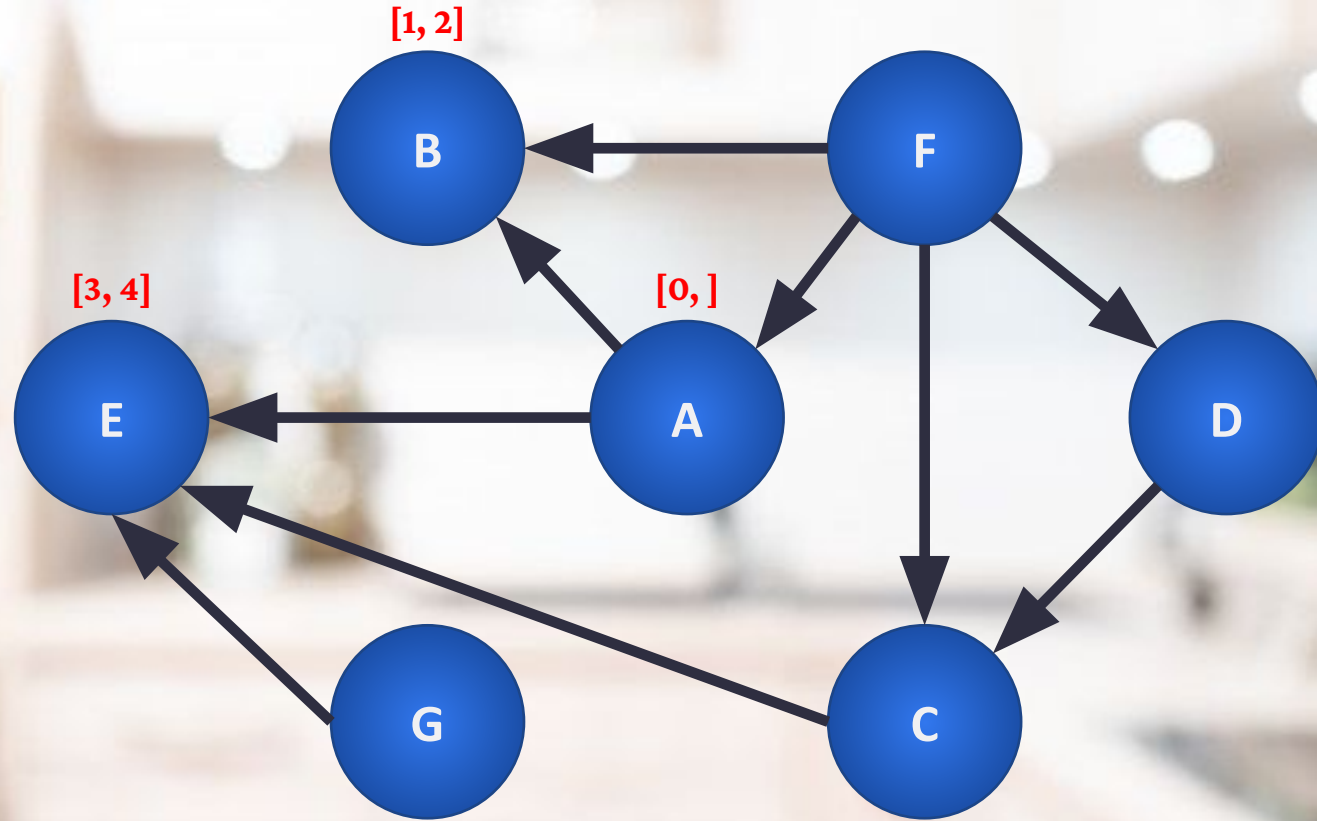
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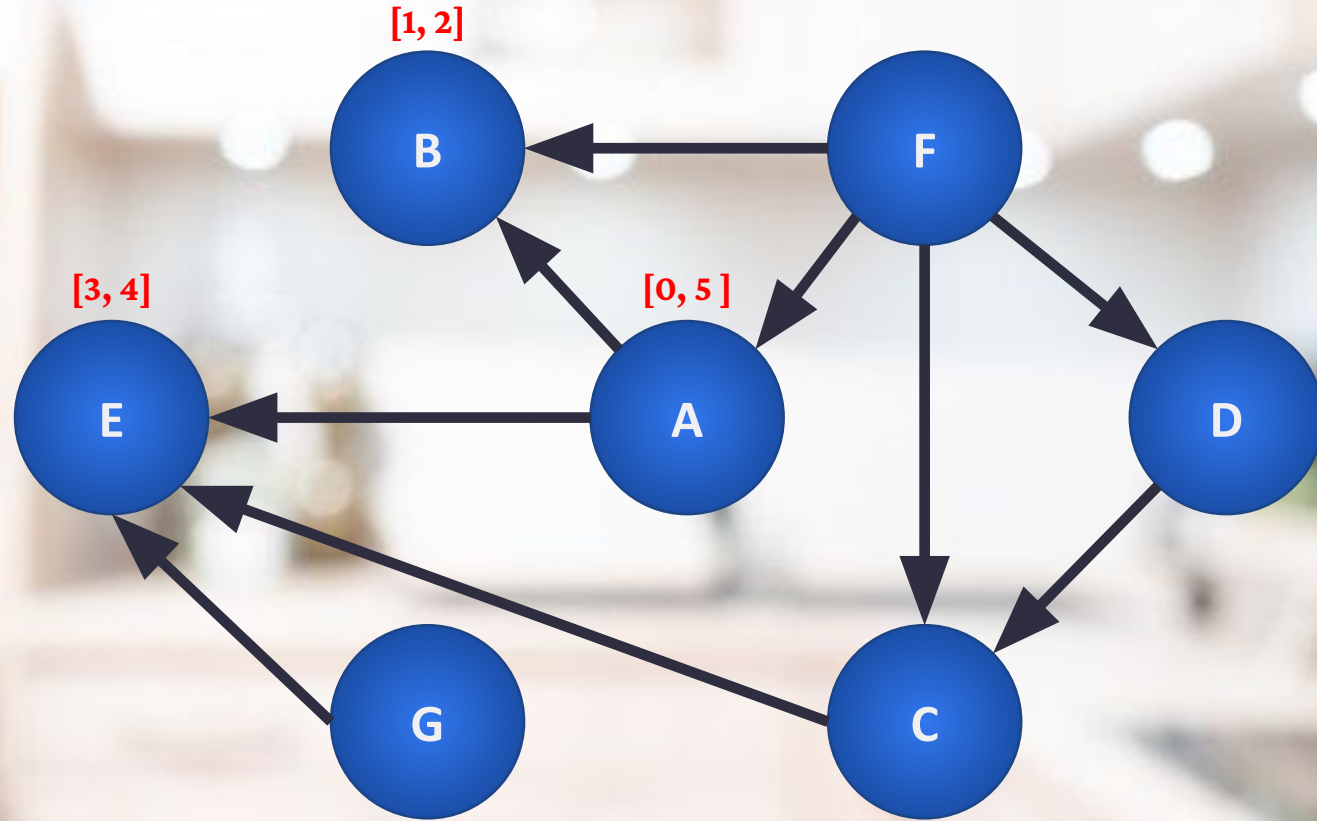
$L = [B]$



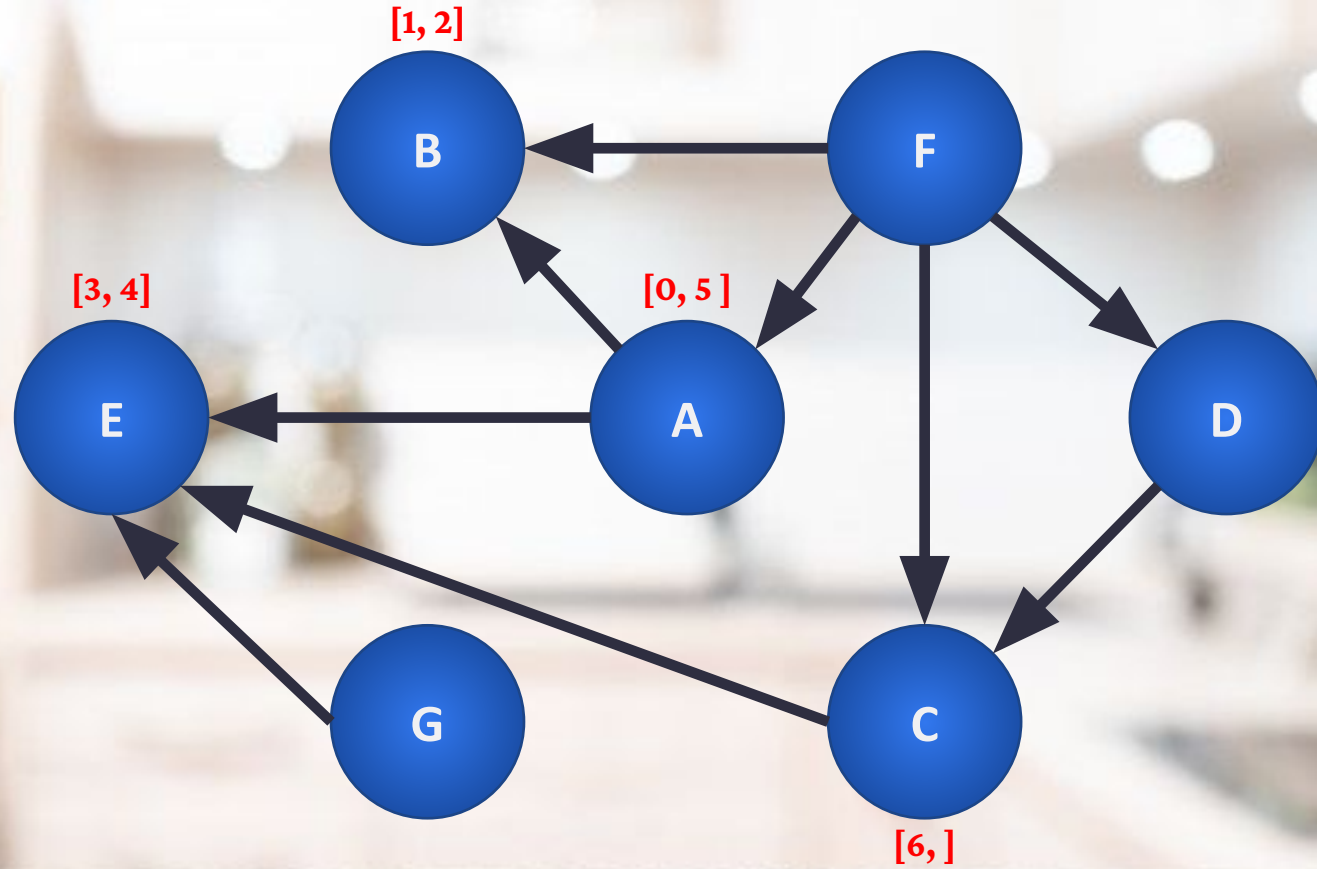
$L = [E, B]$



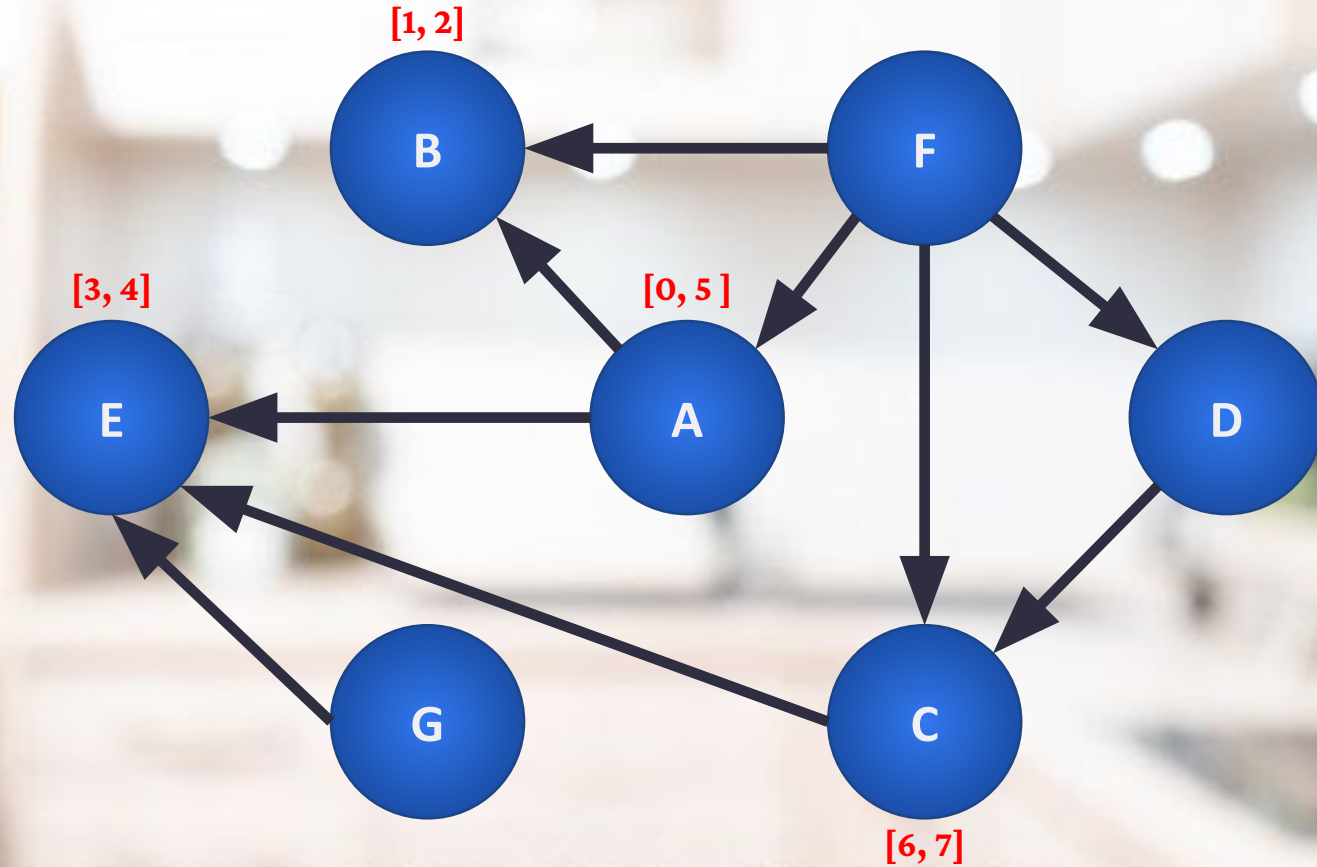
$L = [A, E, B]$



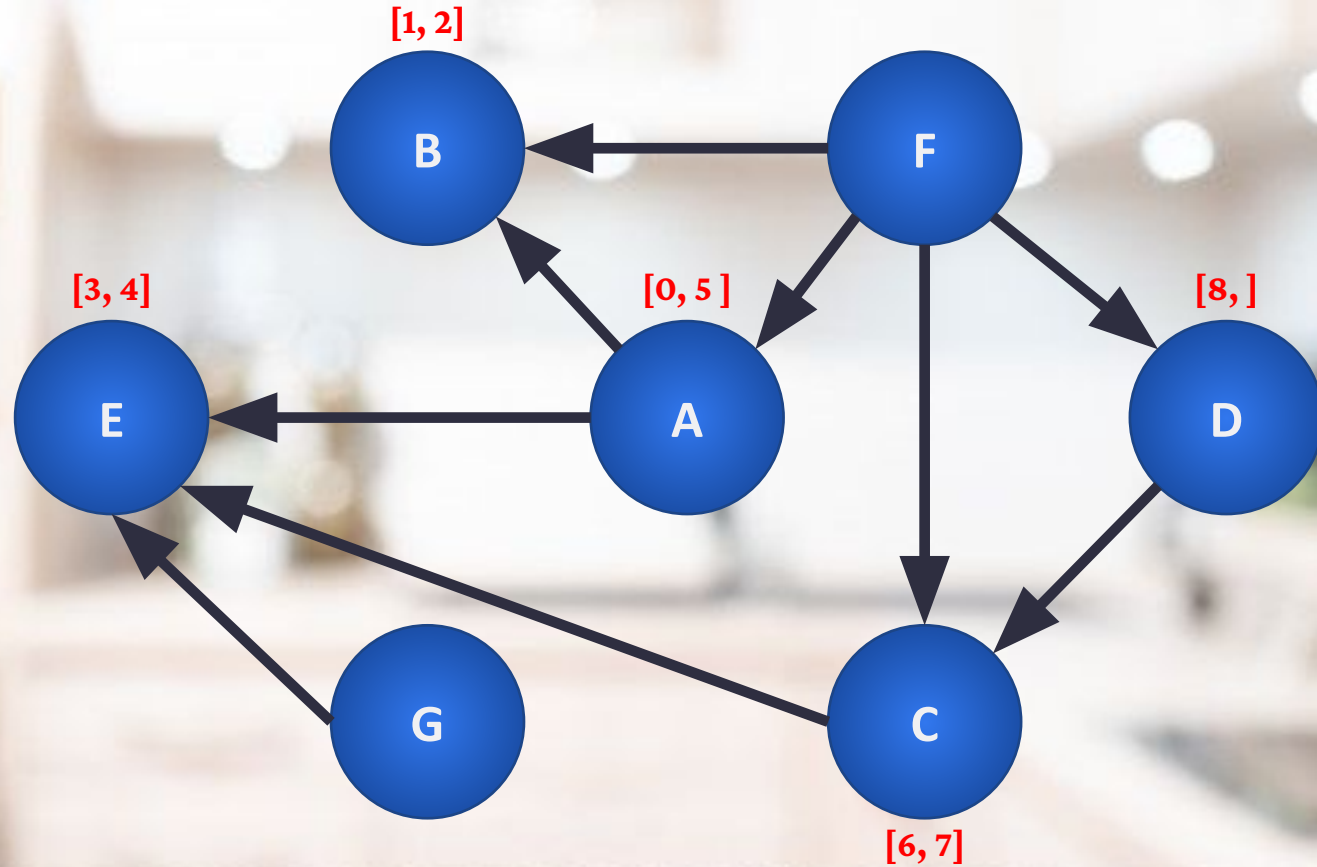
$L = [A, E, B]$



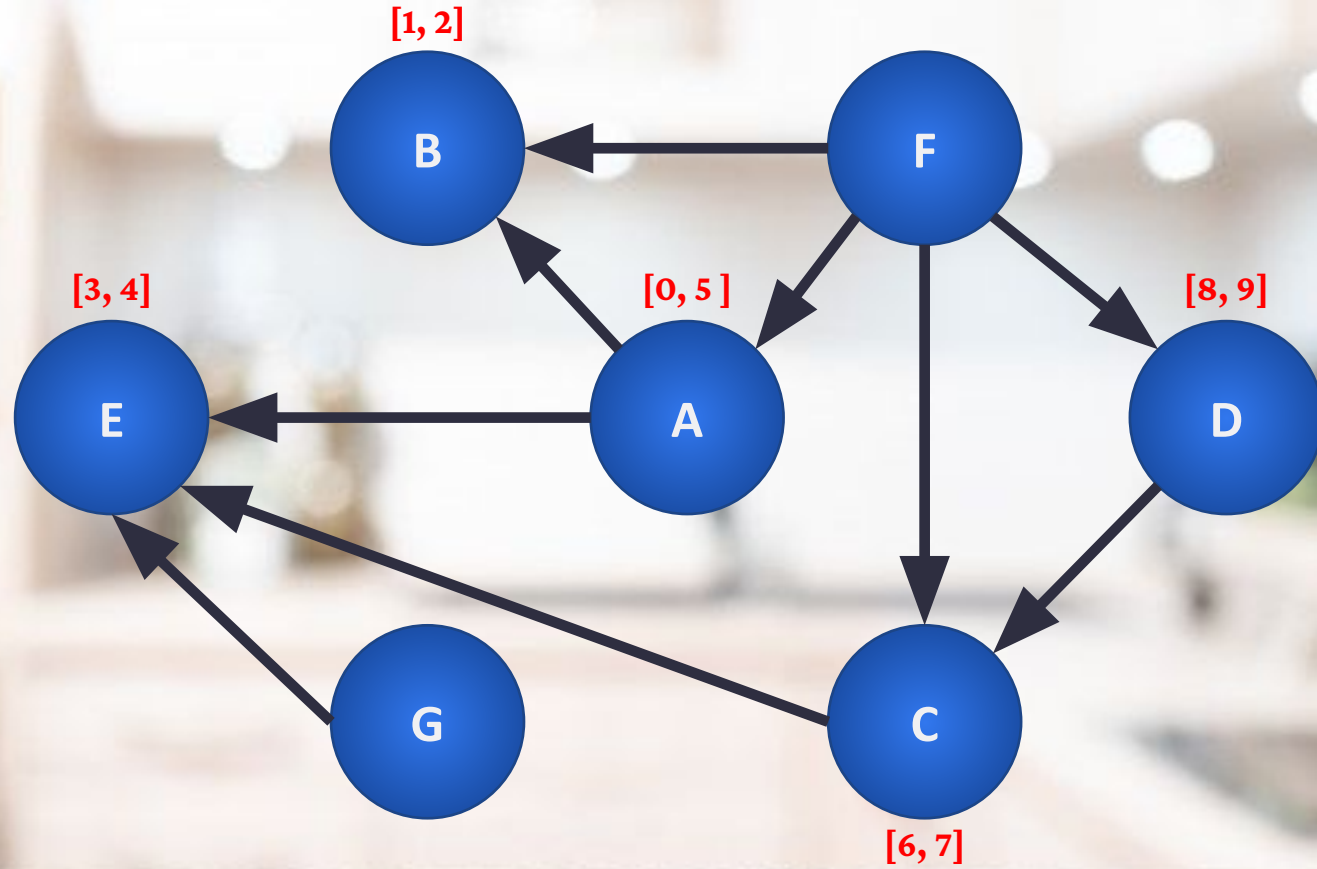
$L = [C, A, E, B]$



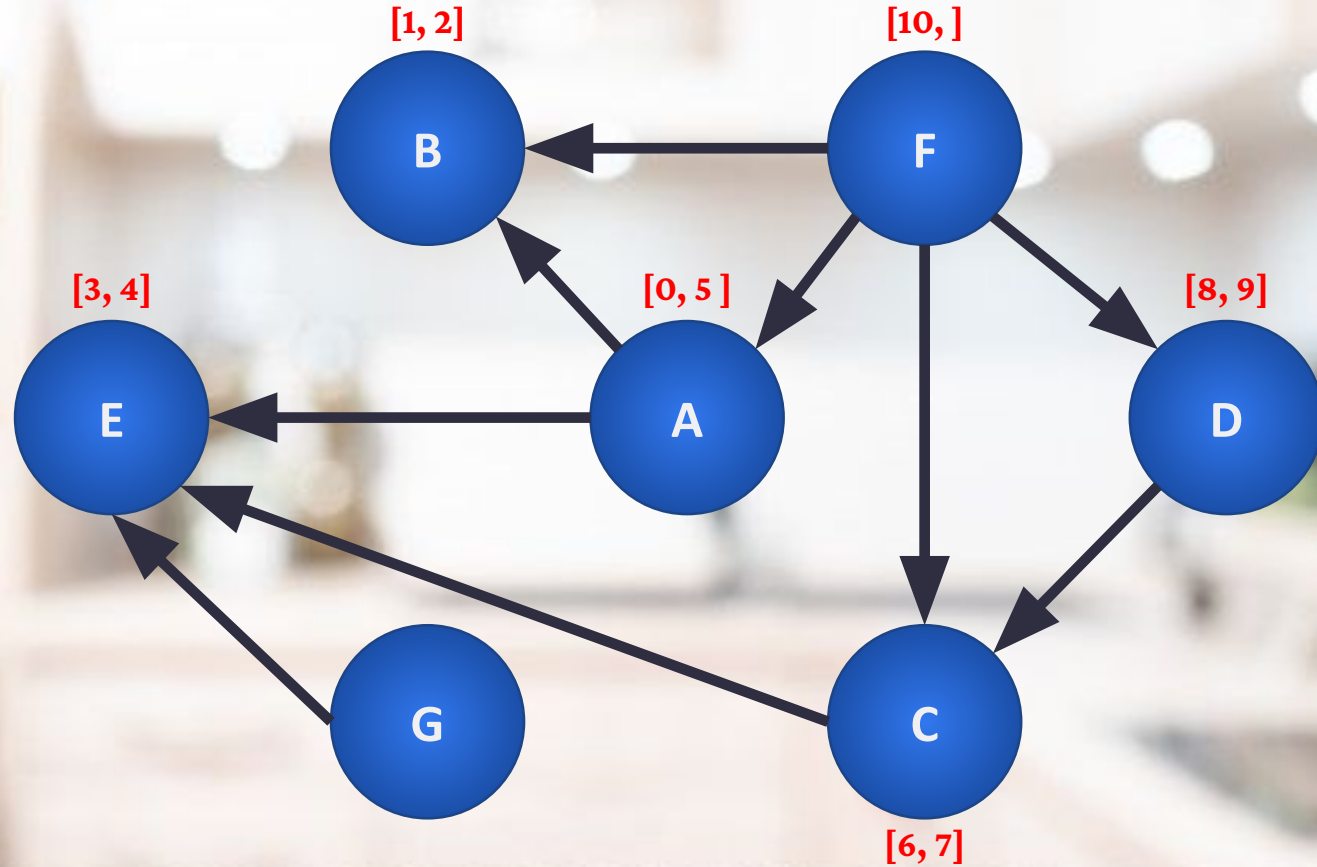
$L = [C, A, E, B]$



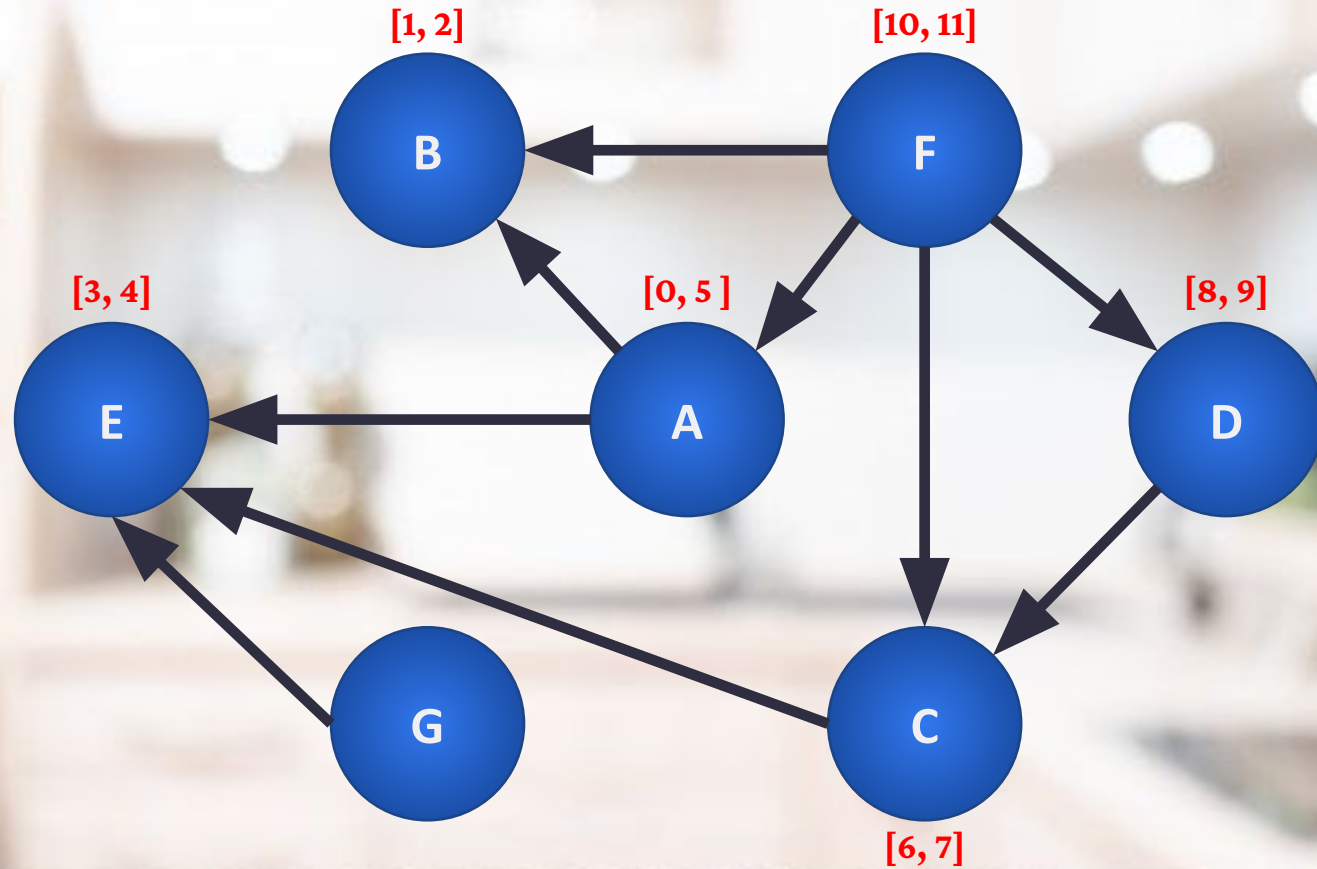
$L = [D, C, A, E, B]$



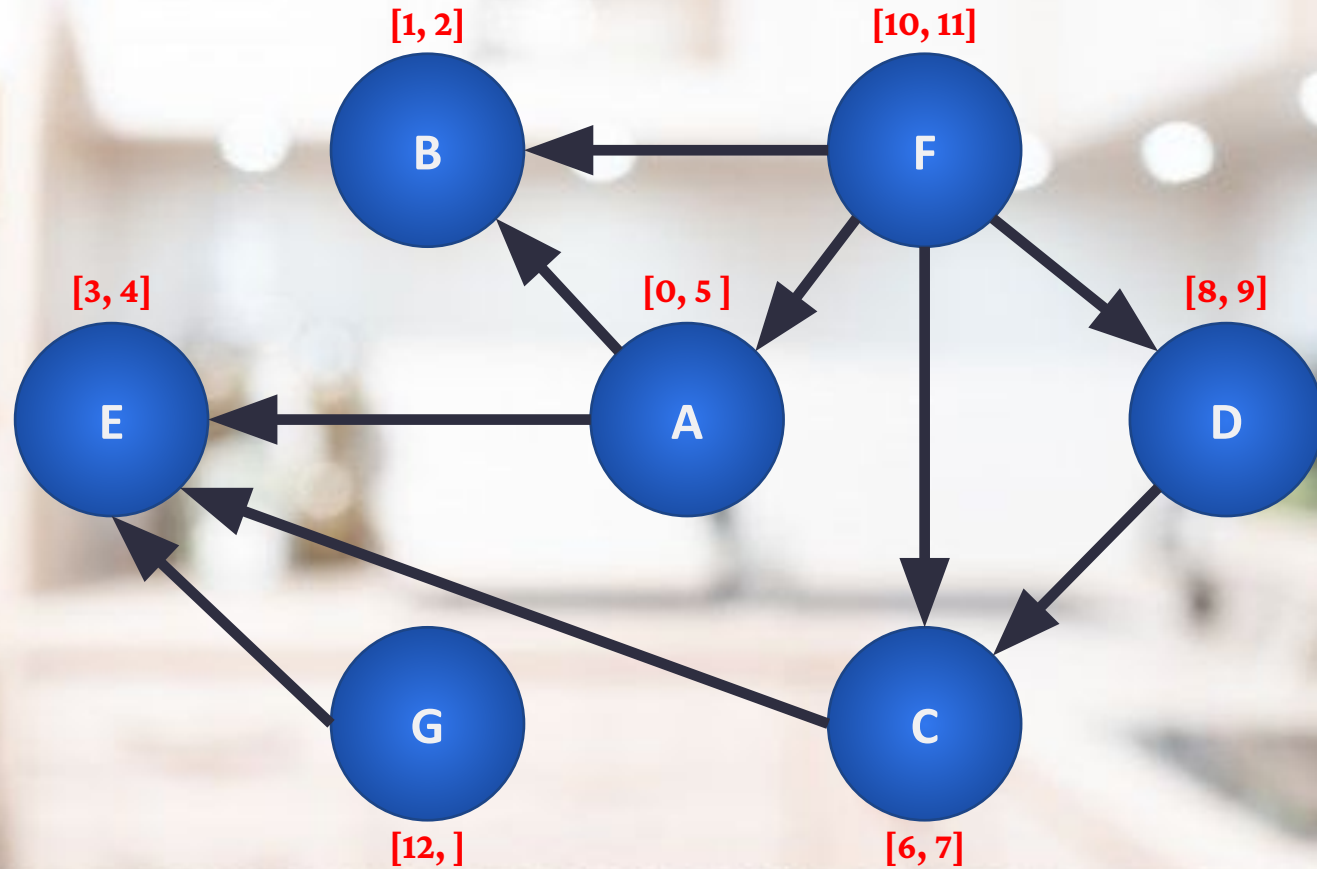
$L = [D, C, A, E, B]$



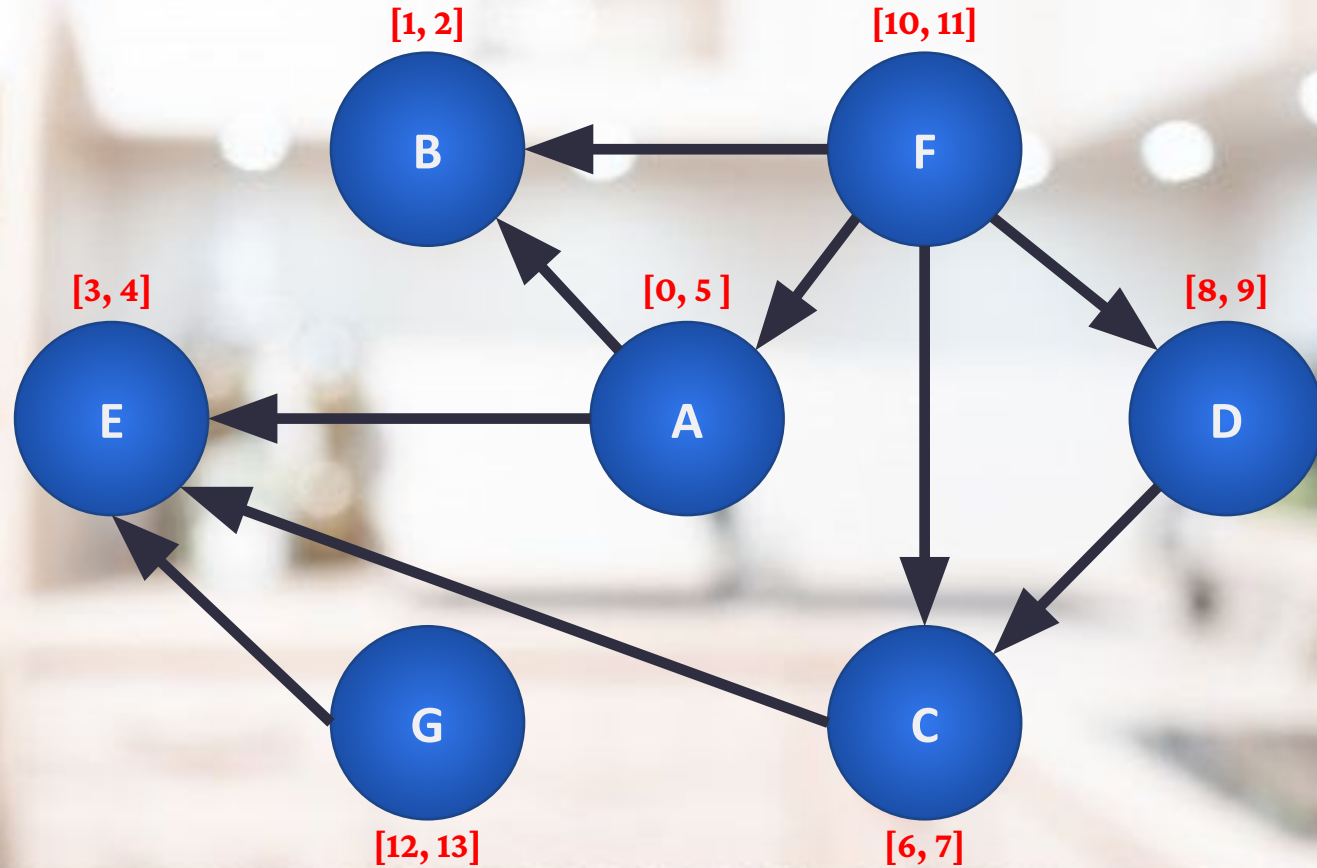
$L = [F, D, C, A, E, B]$



$L = [F, D, C, A, E, B]$



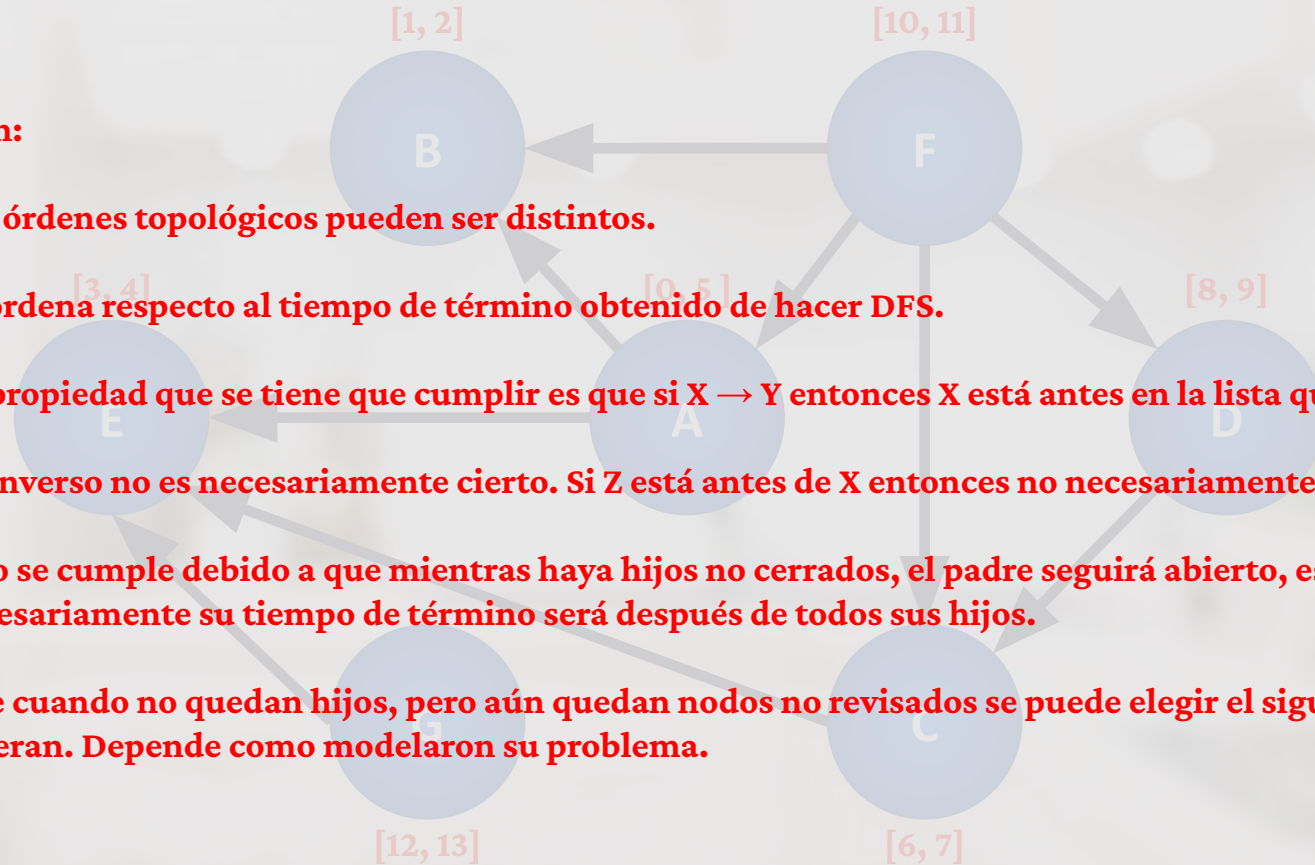
$L = [G, F, D, C, A, E, B]$



$L = [G, F, D, C, A, E, B]$

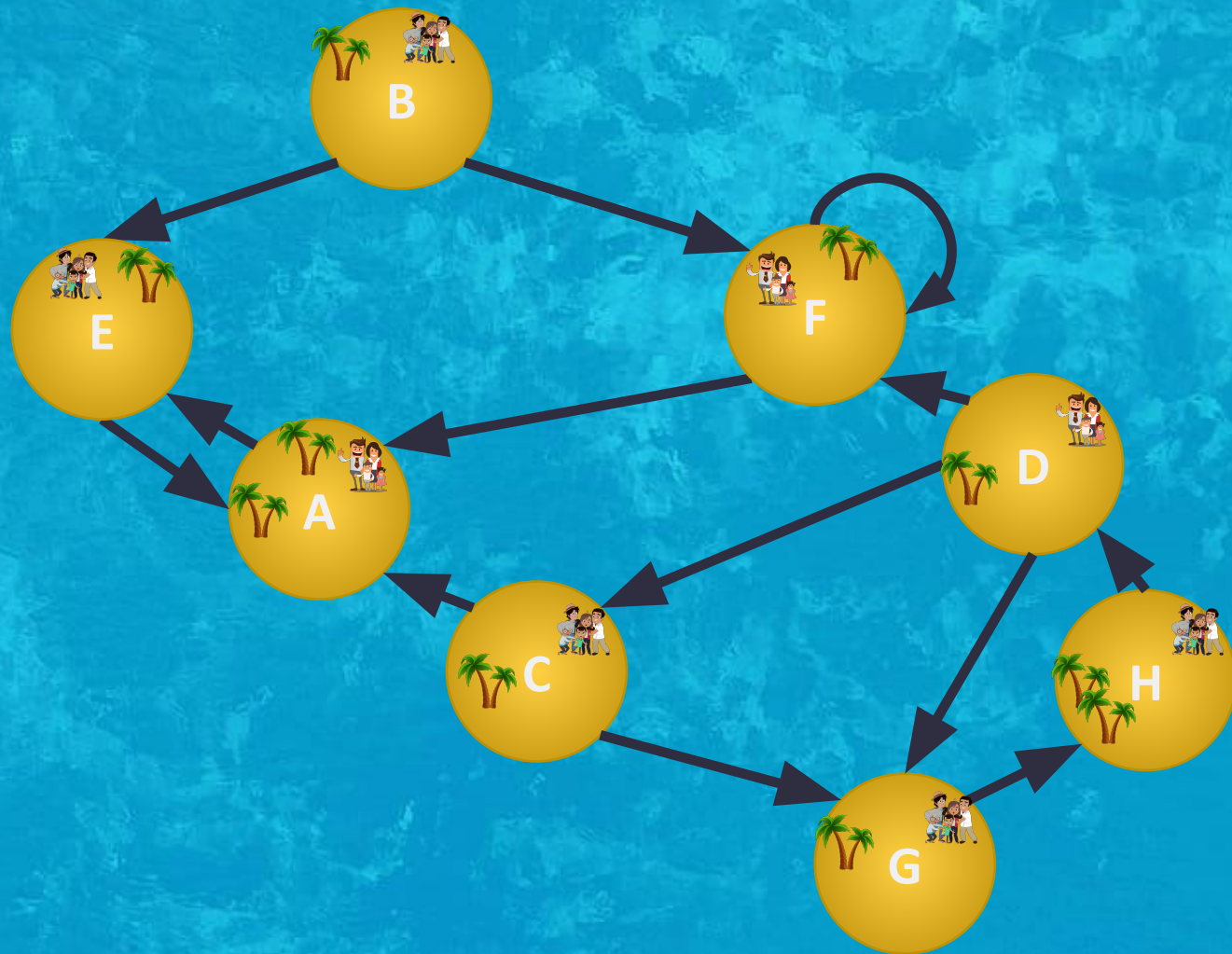
Recuerden:

1. Los órdenes topológicos pueden ser distintos.
2. Se ordena respecto al tiempo de término obtenido de hacer DFS.
3. La propiedad que se tiene que cumplir es que si $X \rightarrow Y$ entonces X está antes en la lista que Y .
4. Lo inverso no es necesariamente cierto. Si Z está antes de X entonces no necesariamente $Z \rightarrow X$.
5. Esto se cumple debido a que mientras haya hijos no cerrados, el padre seguirá abierto, es decir necesariamente su tiempo de término será después de todos sus hijos.
6. Que cuando no quedan hijos, pero aún quedan nodos no revisados se puede elegir el siguiente como quieran. Depende como modelaron su problema.

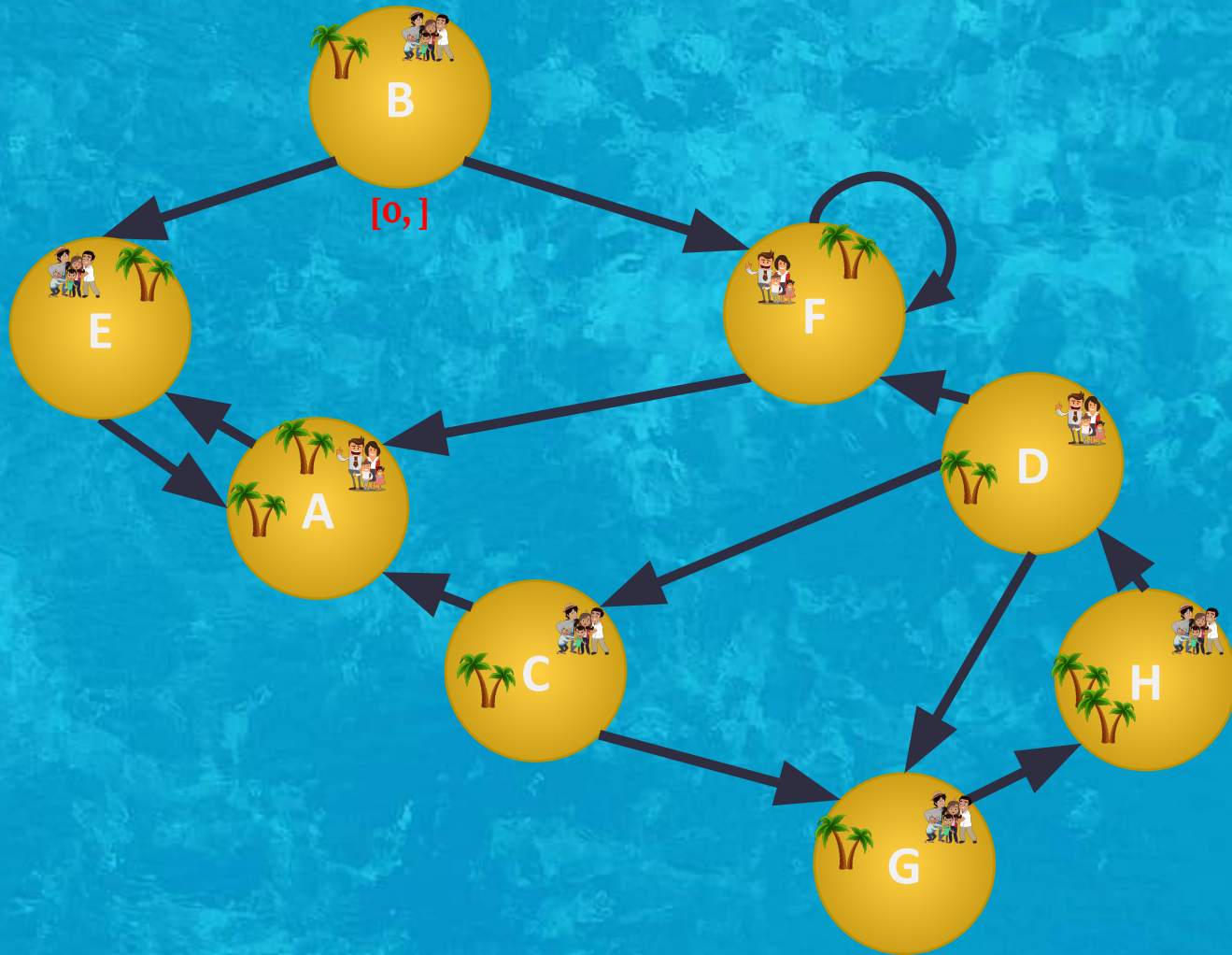


Una comunidad isleña quiere realizar un asado. En cada isla vive una familia, pero por los fuertes vientos, las corrientes marinas invernales y el COVID-19 los caminos están restringidos.

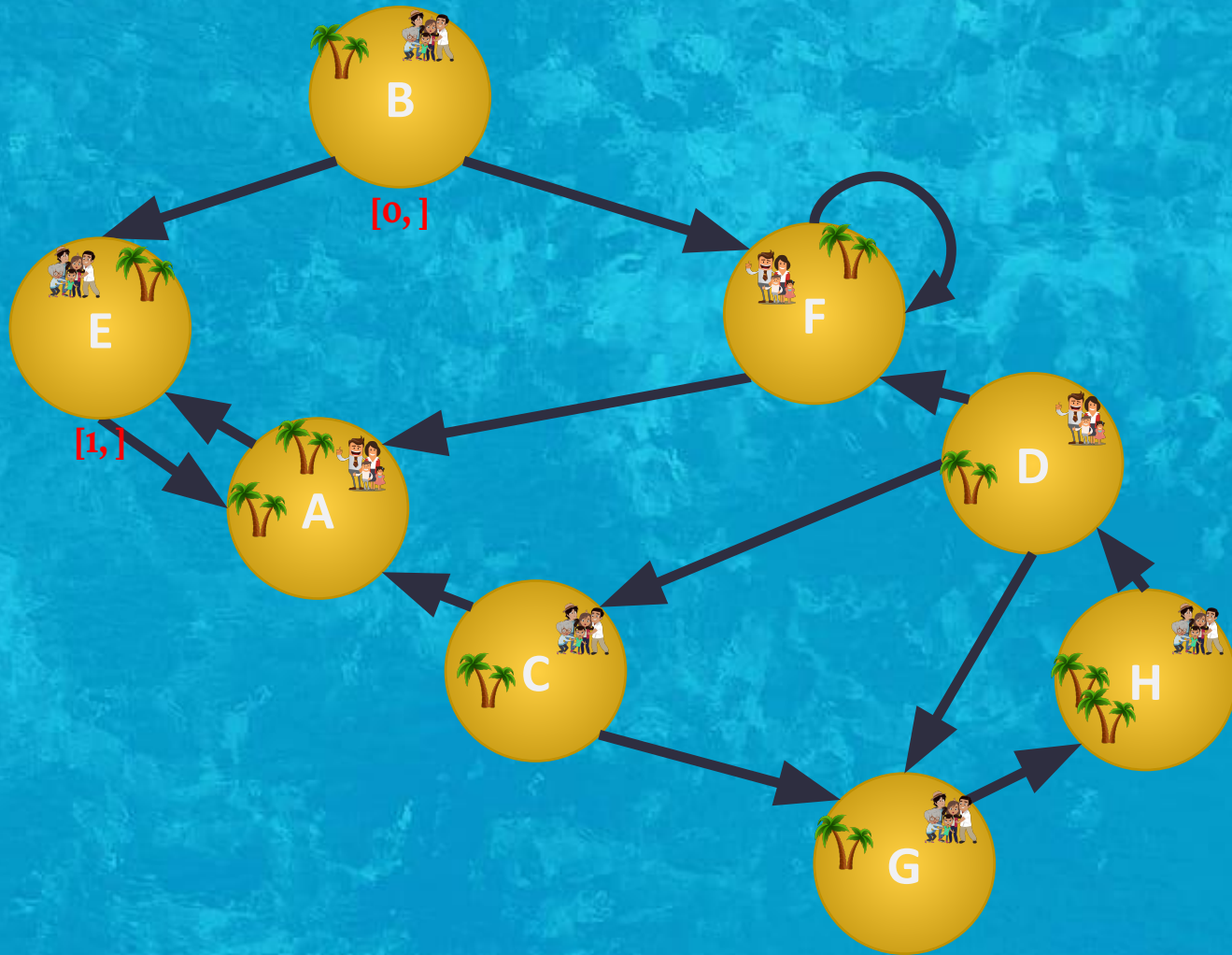
¿En qué isla o islas conviene hacer el asado para que la **mayor cantidad** de familias puedan **asistir** y **volver** a sus casas sin problema?



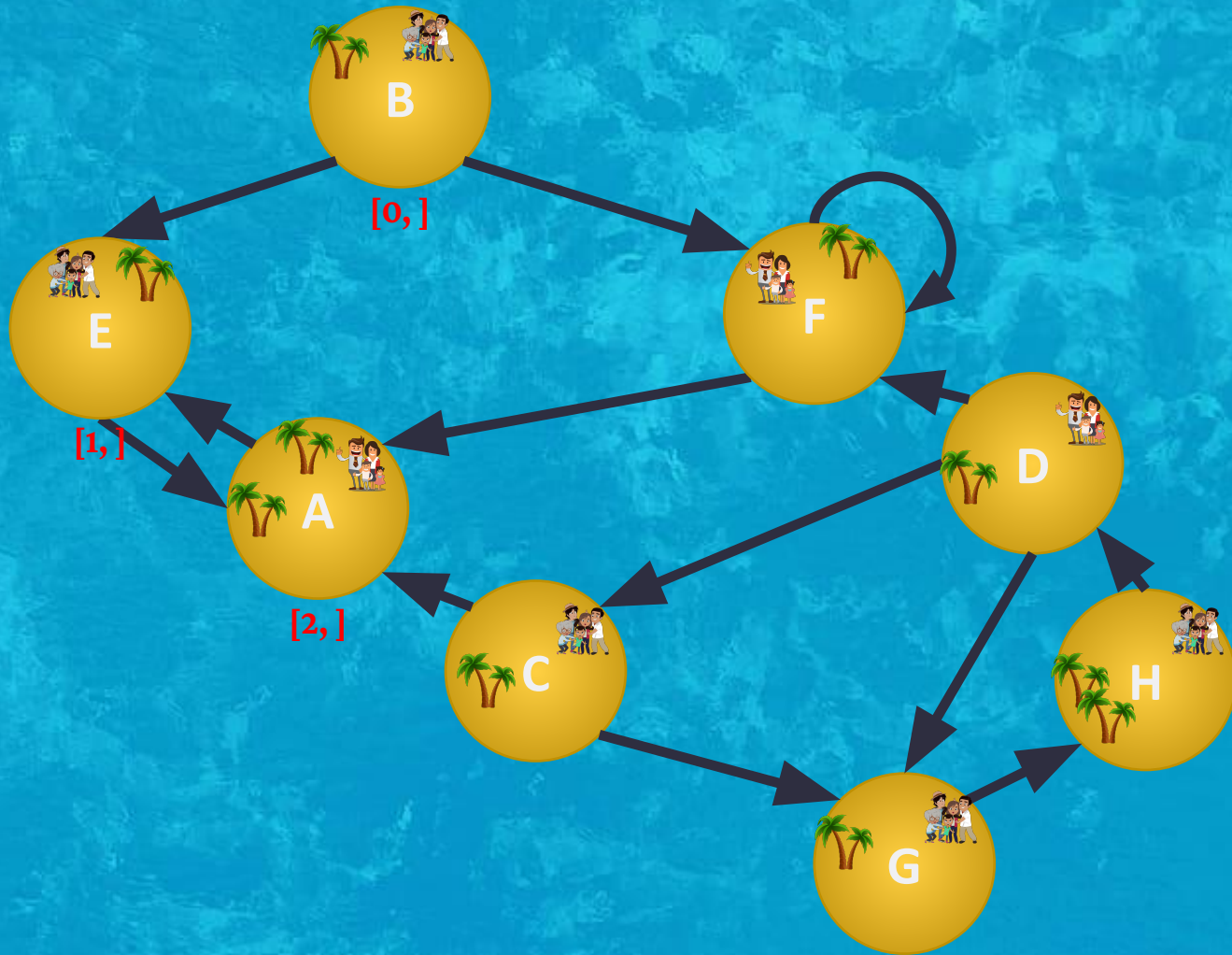
$L = []$



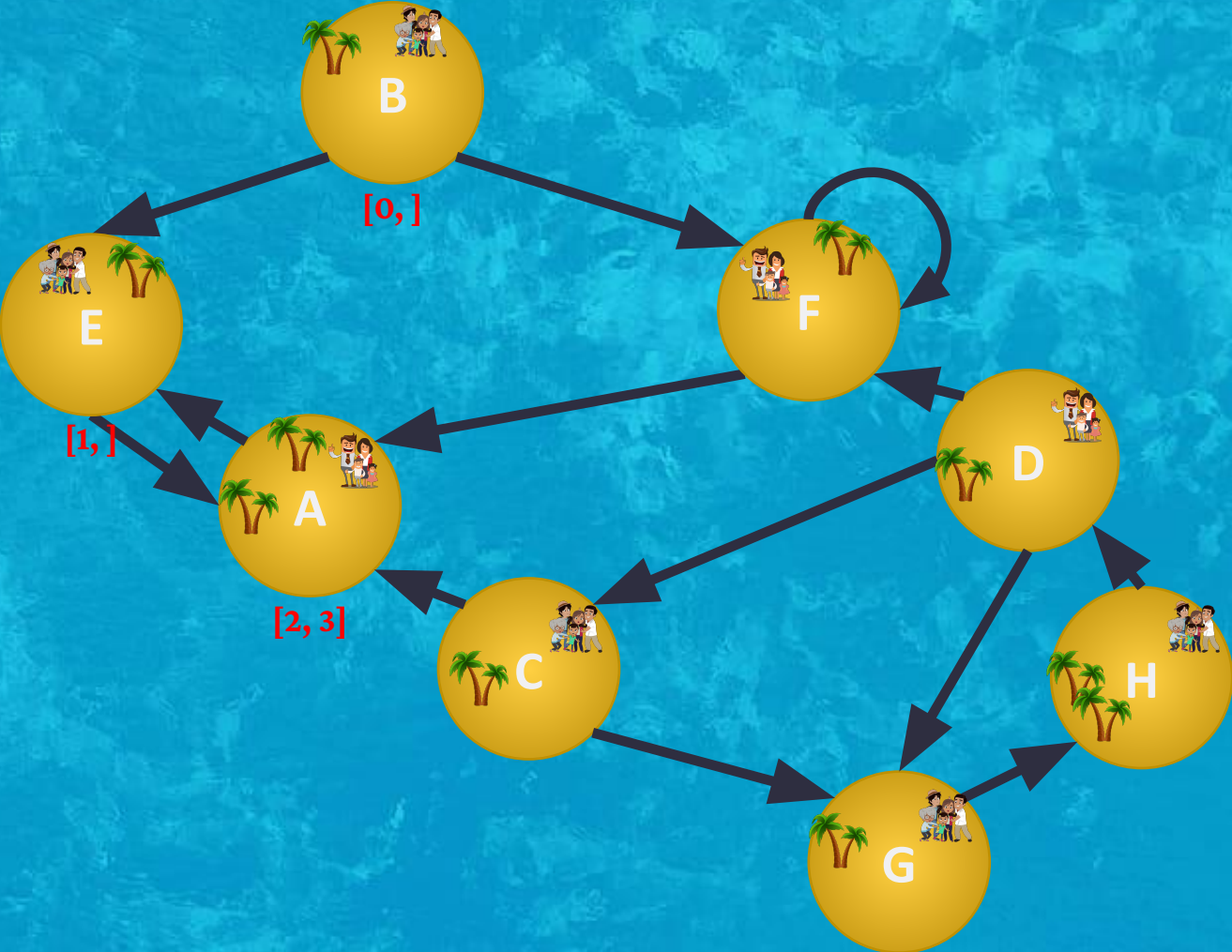
$L = []$



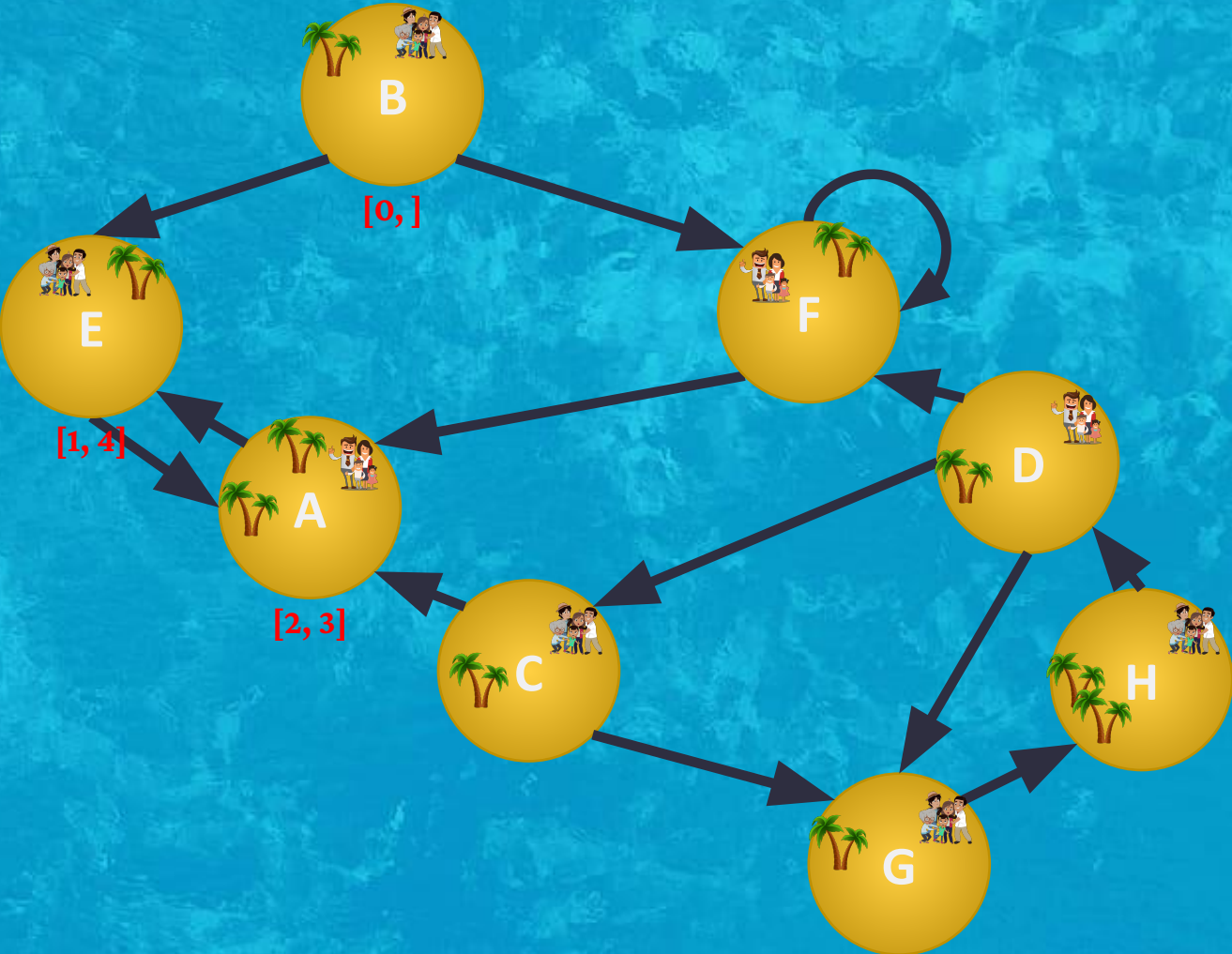
$L = []$



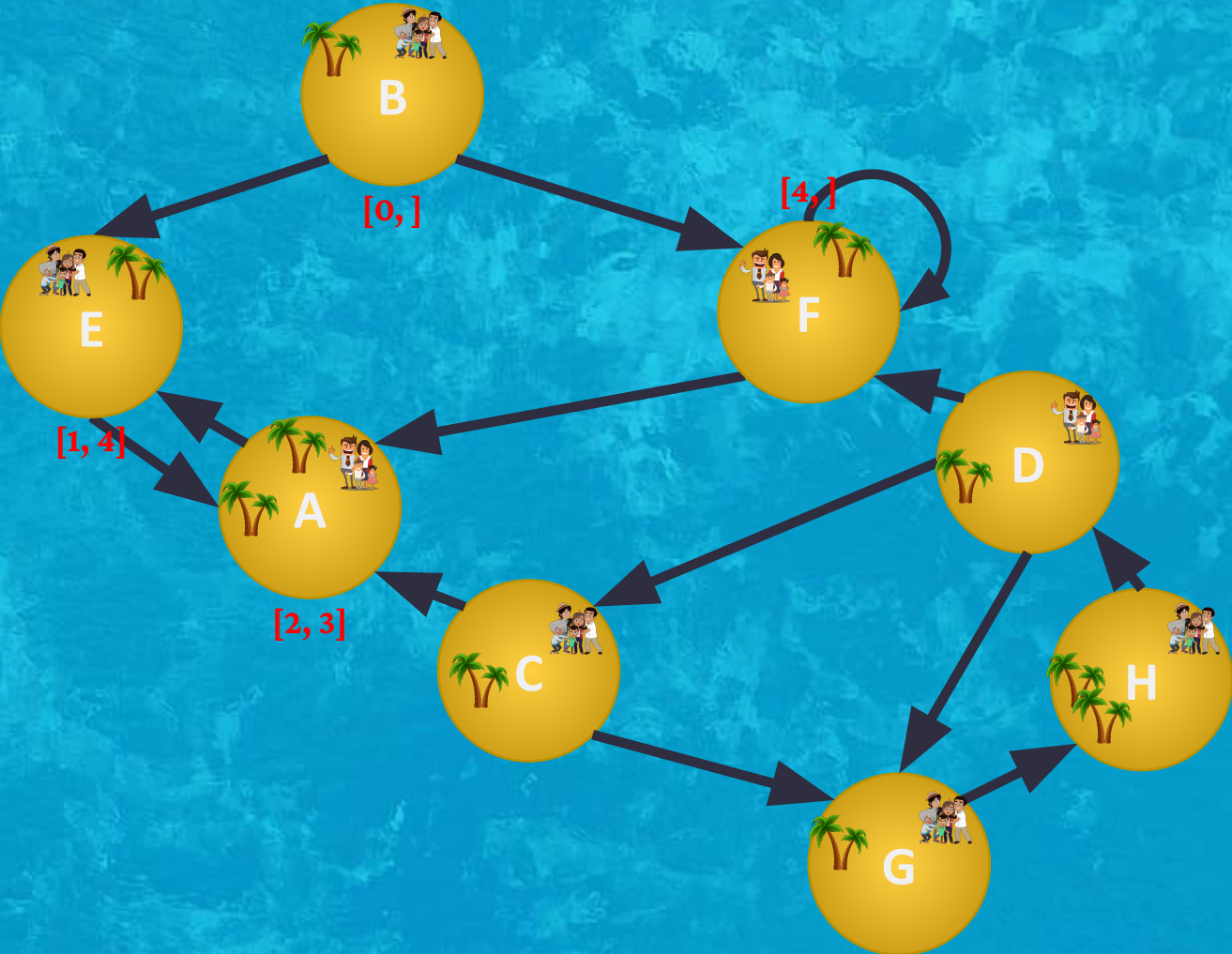
$L = [A]$



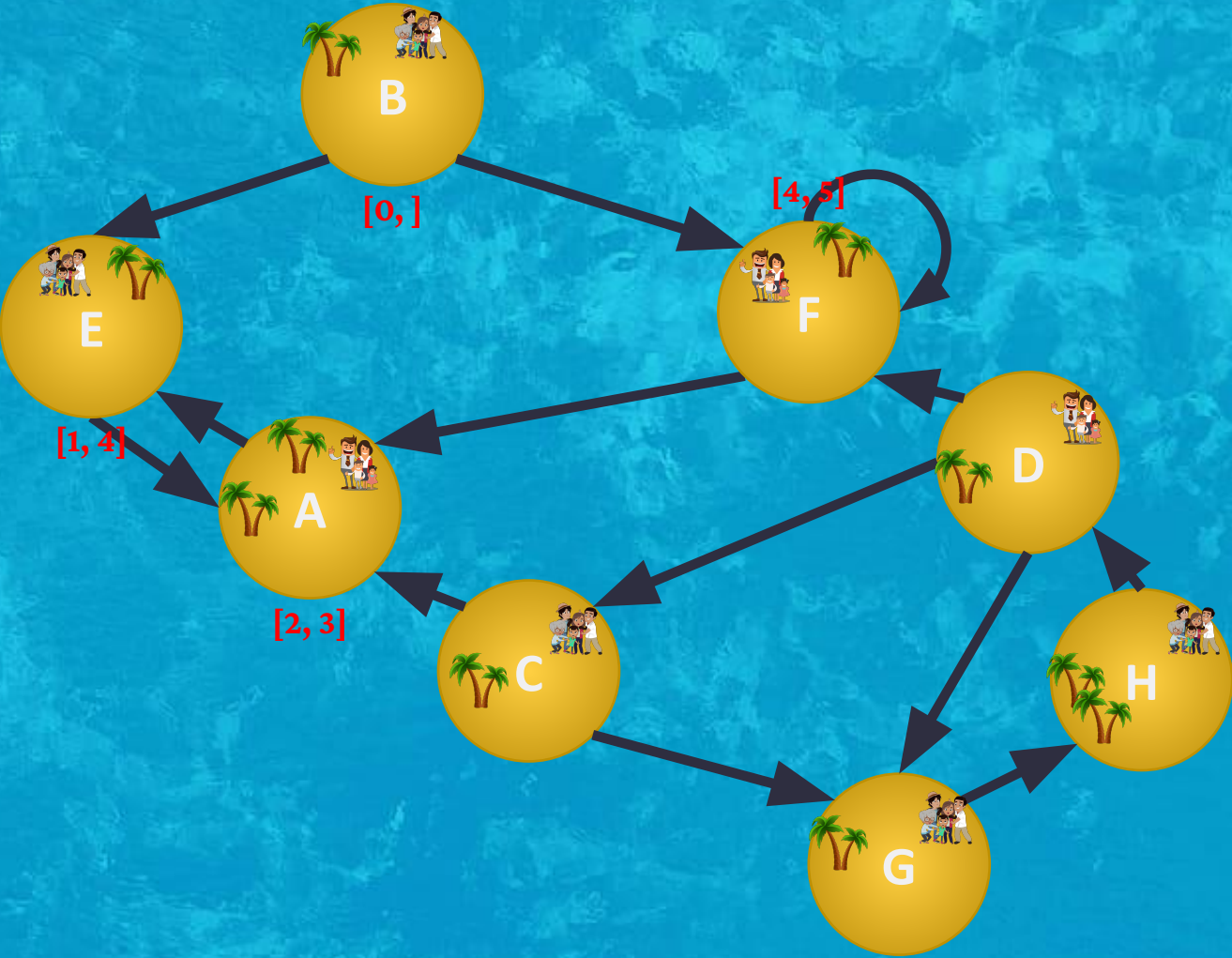
$L = [E, A]$



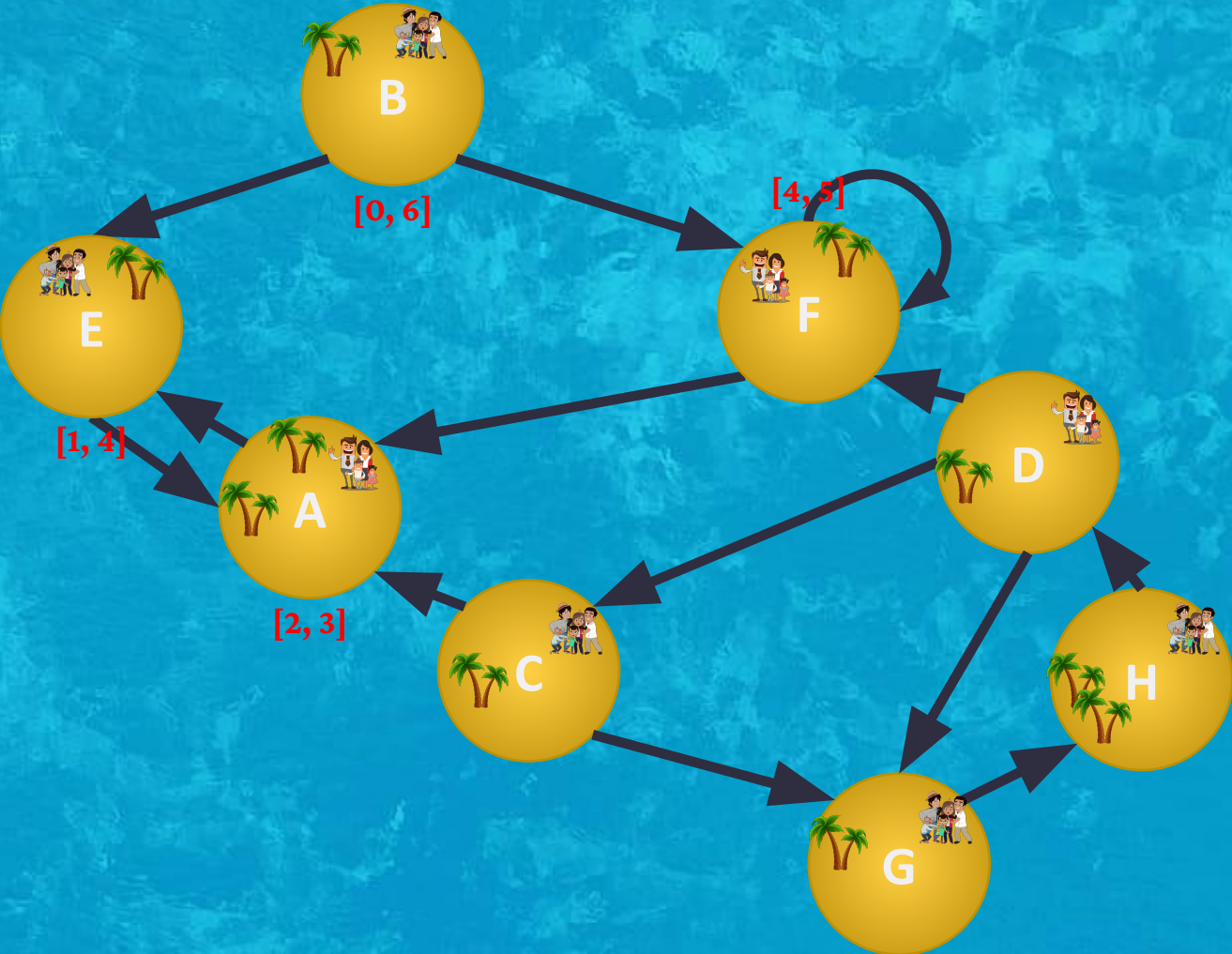
$L = [E, A]$



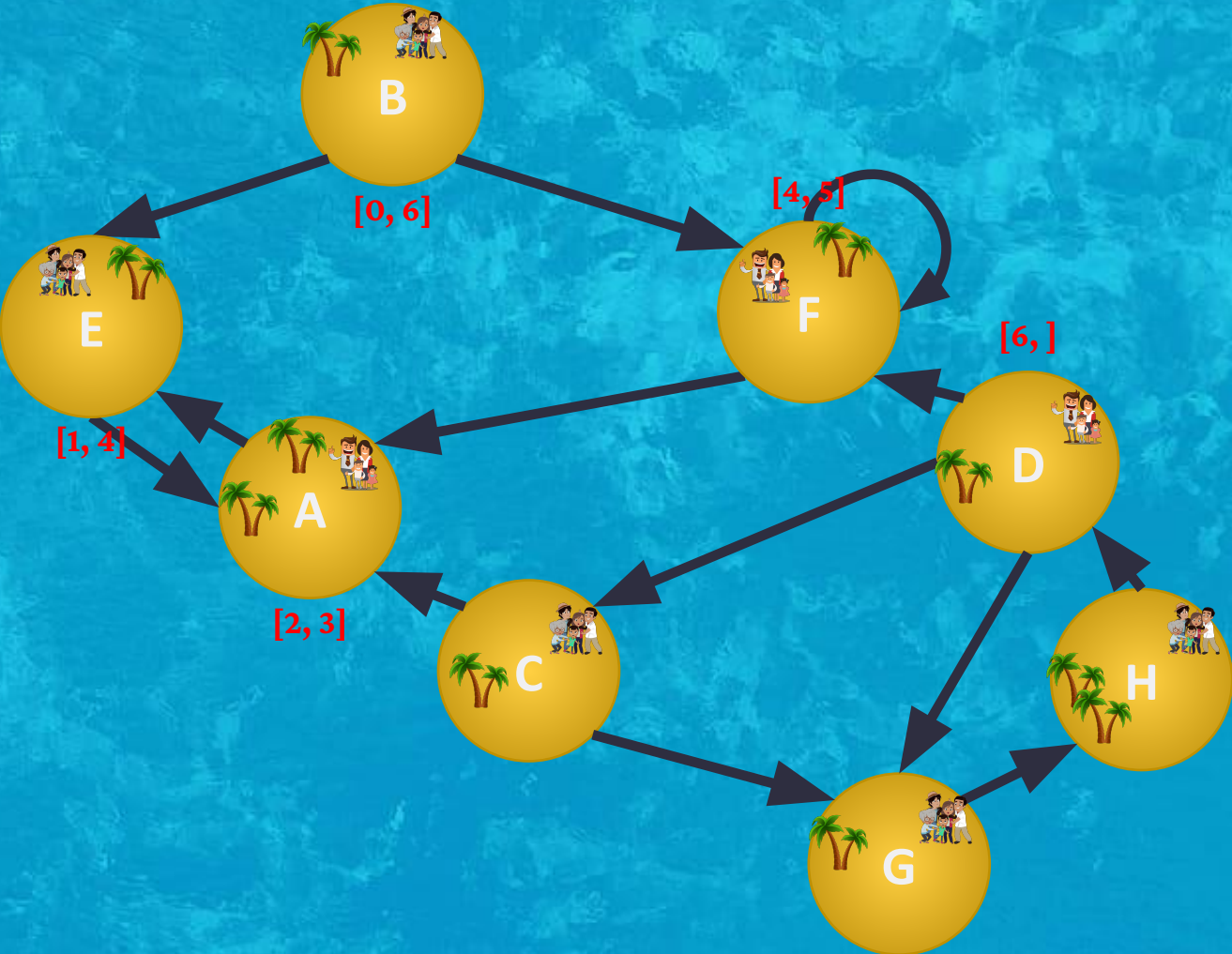
$L = [F, E, A]$



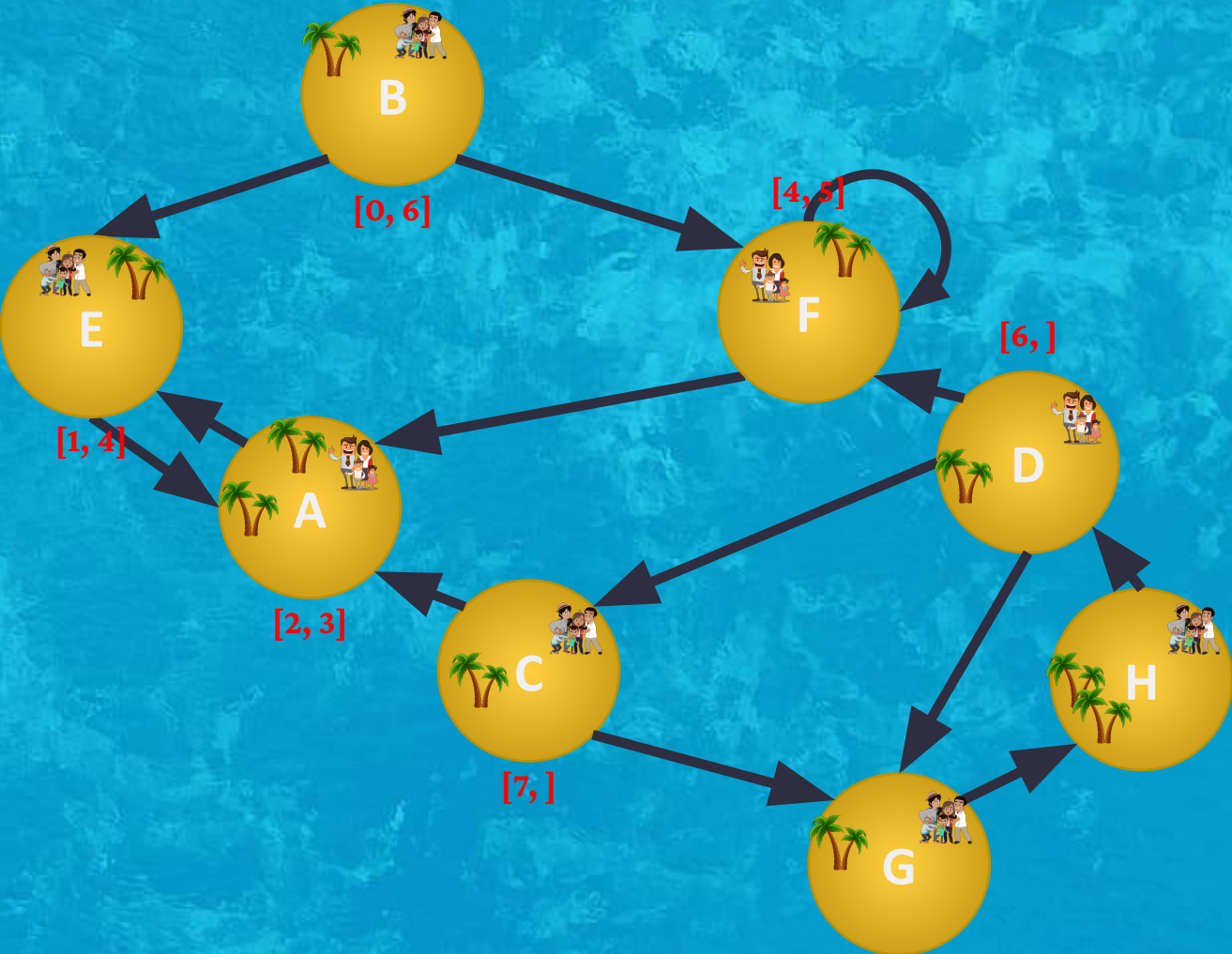
$L = [B, F, E, A]$

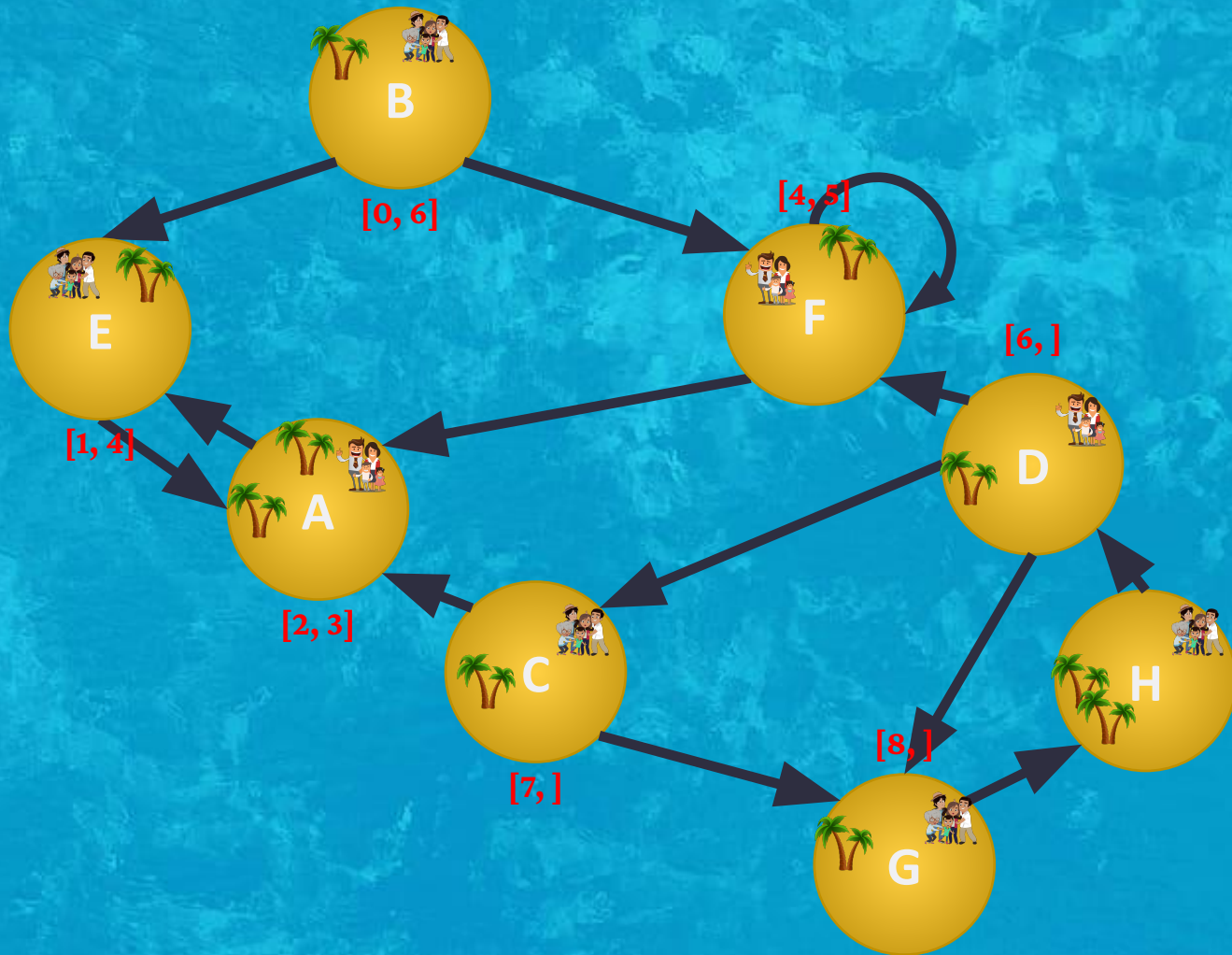


$L = [B, F, E, A]$

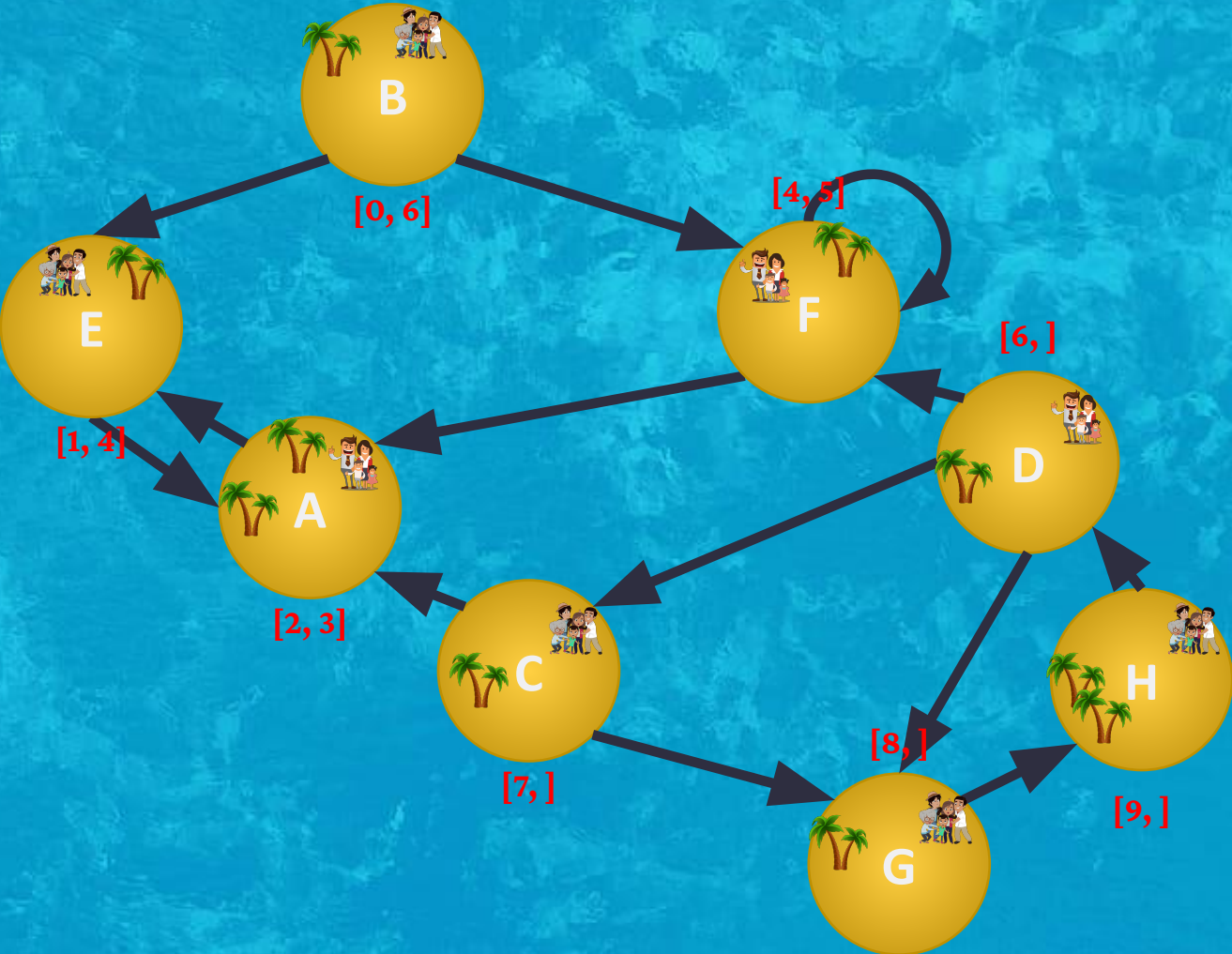


$L = [B, F, E, A]$

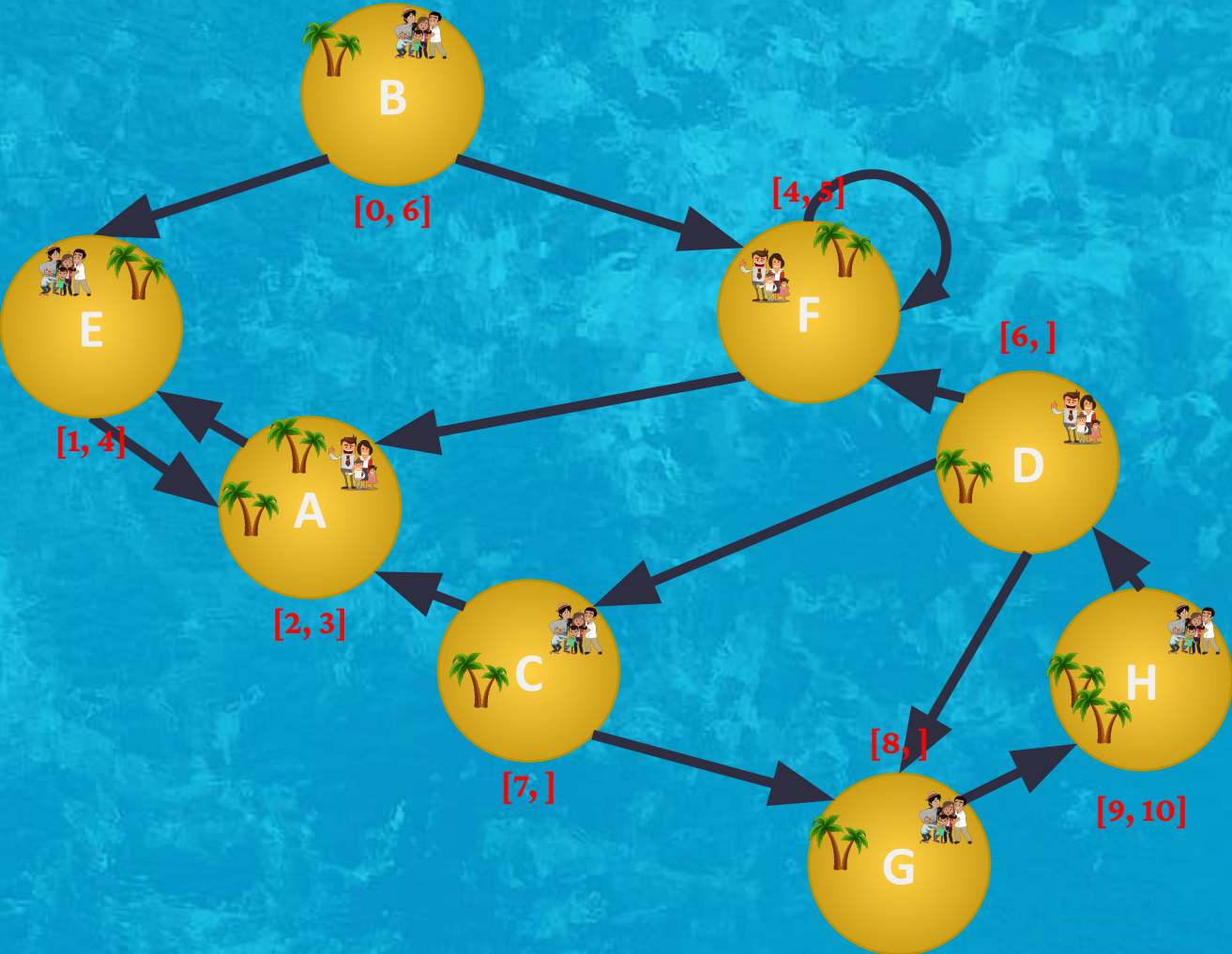


$$\mathbf{L} = [\mathbf{B}, \mathbf{F}, \mathbf{E}, \mathbf{A}]$$


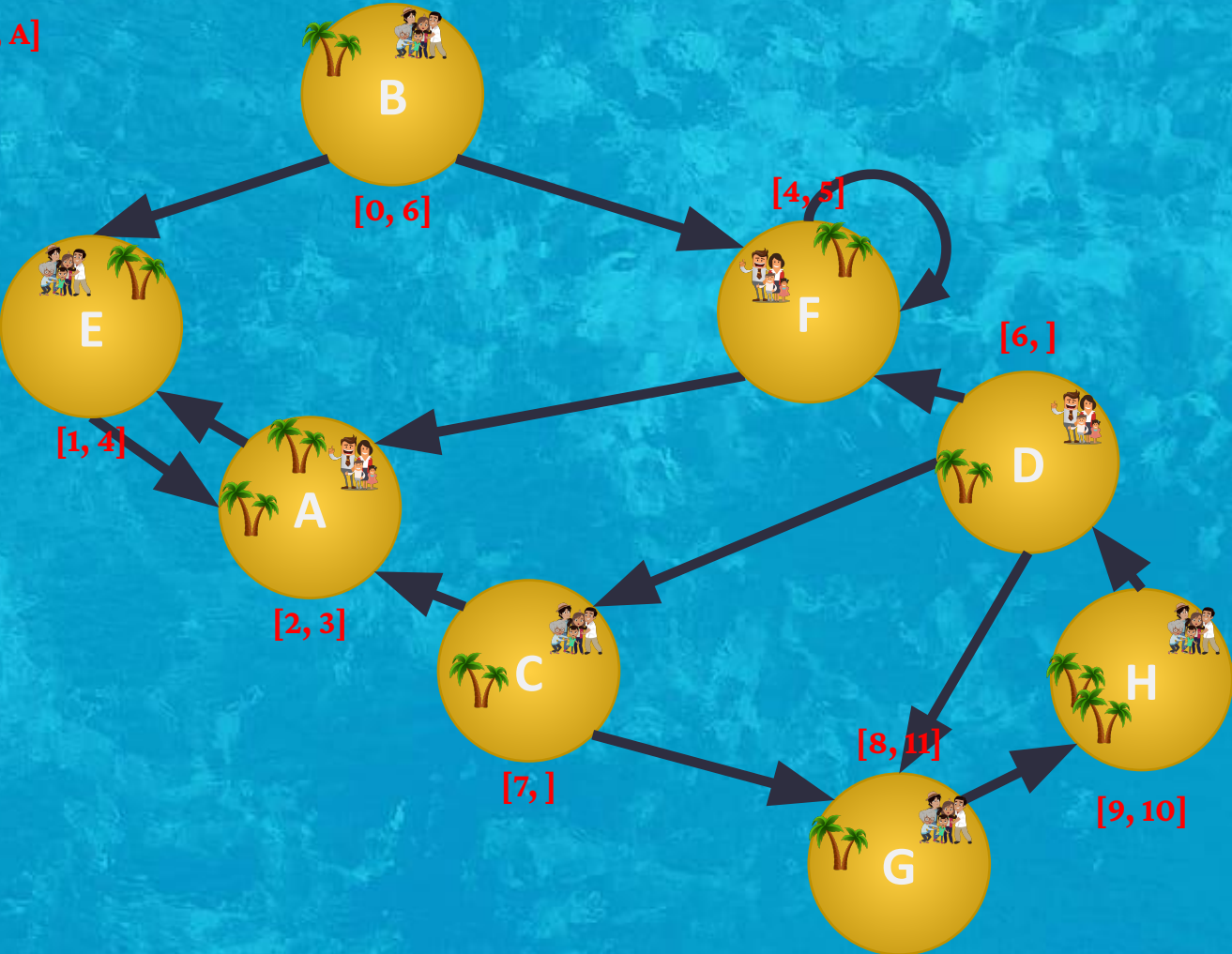
$L = [B, F, E, A]$



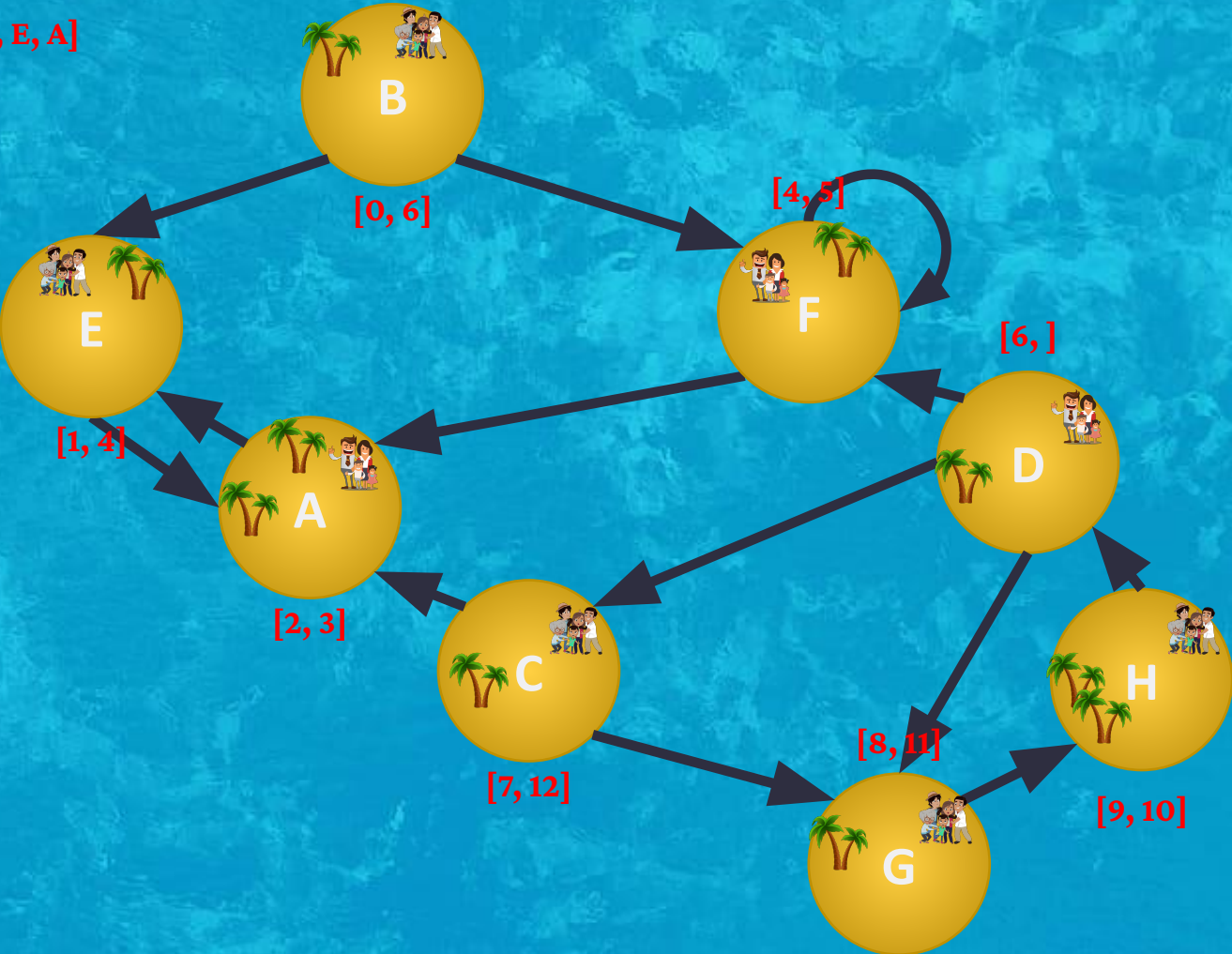
$L = [H, B, F, E, A]$



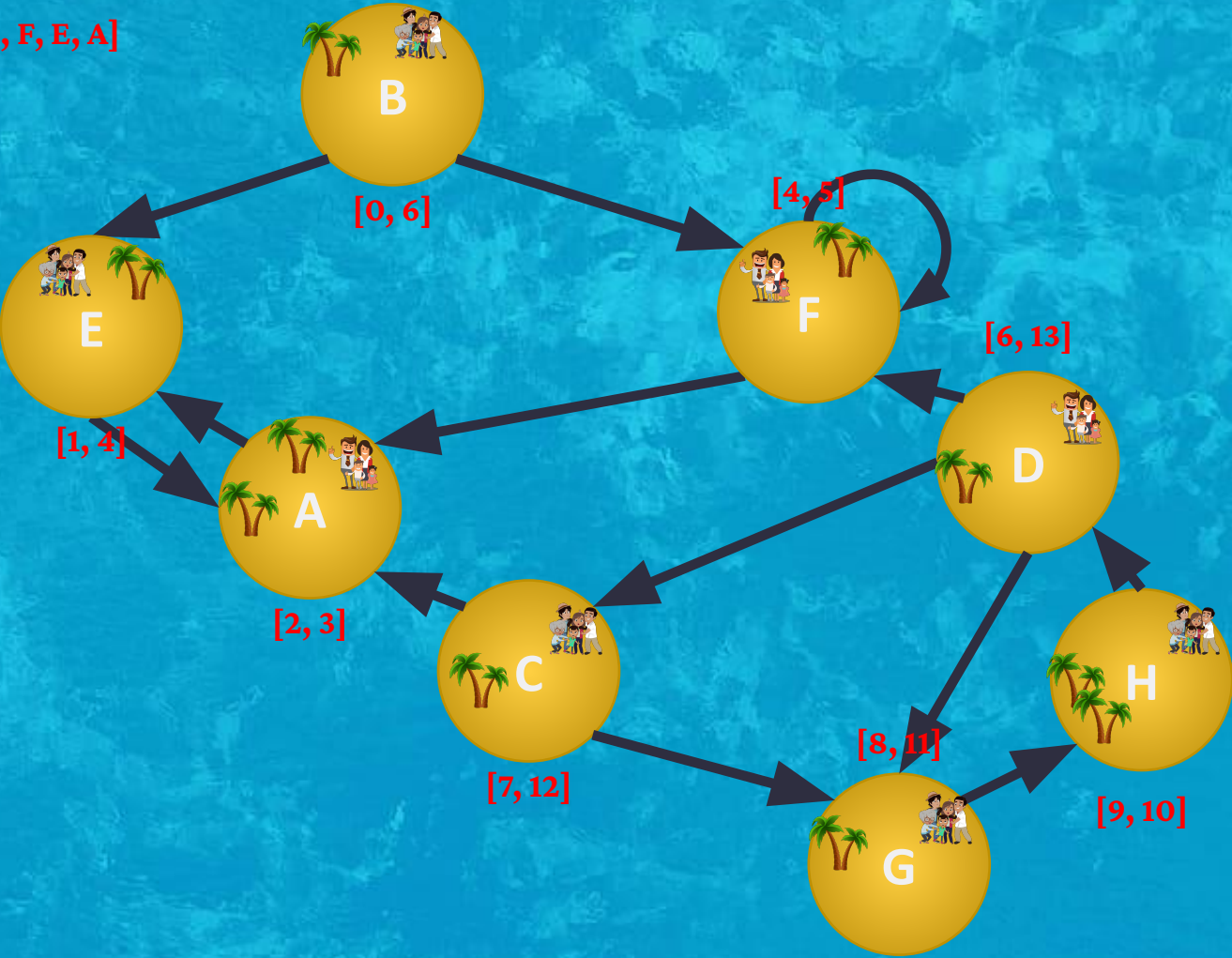
$L = [G, H, B, F, E, A]$



$L = [C, G, H, B, F, E, A]$



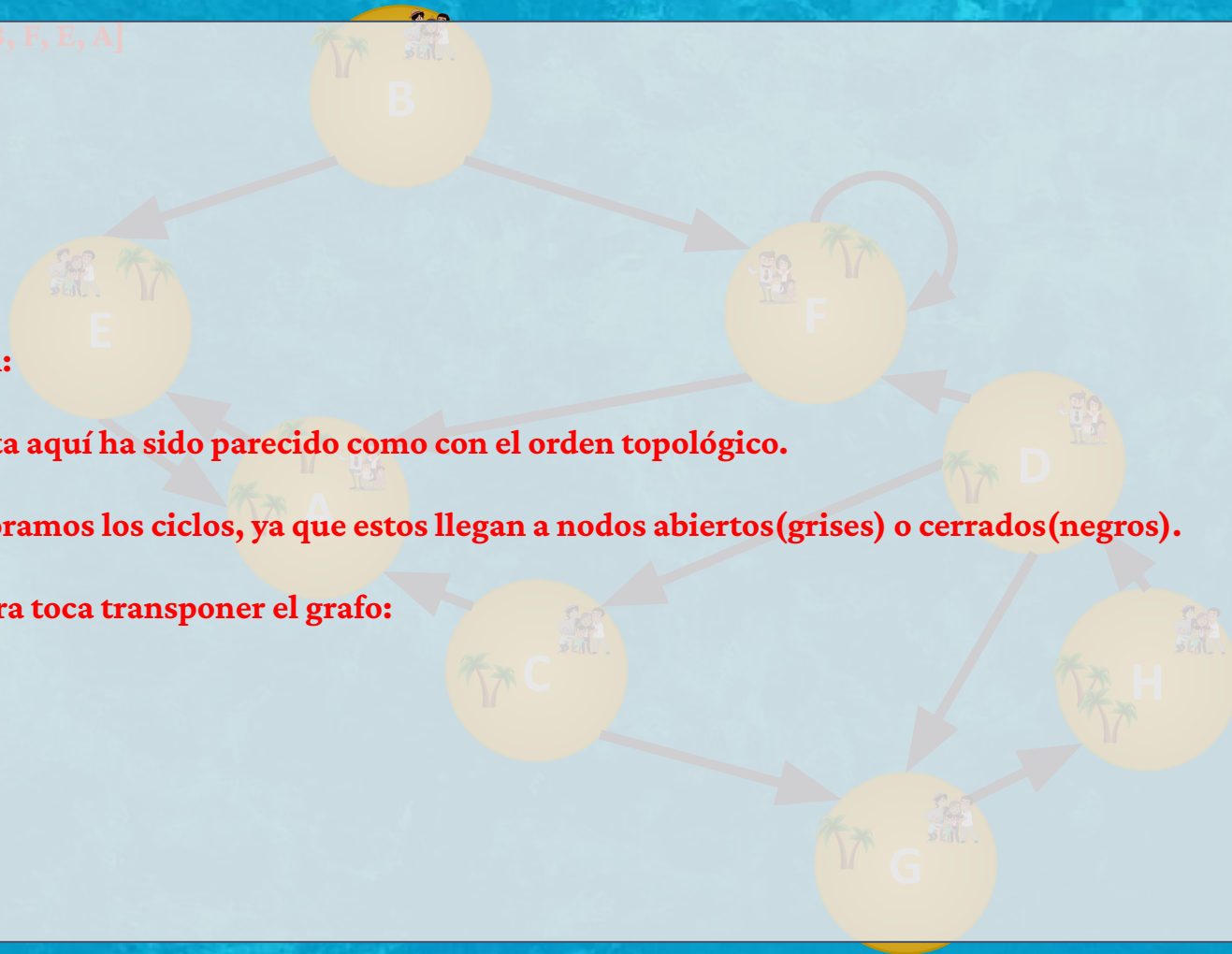
$L = [D, C, G, H, B, F, E, A]$



$L = [D, F, G, H, B, E, A]$

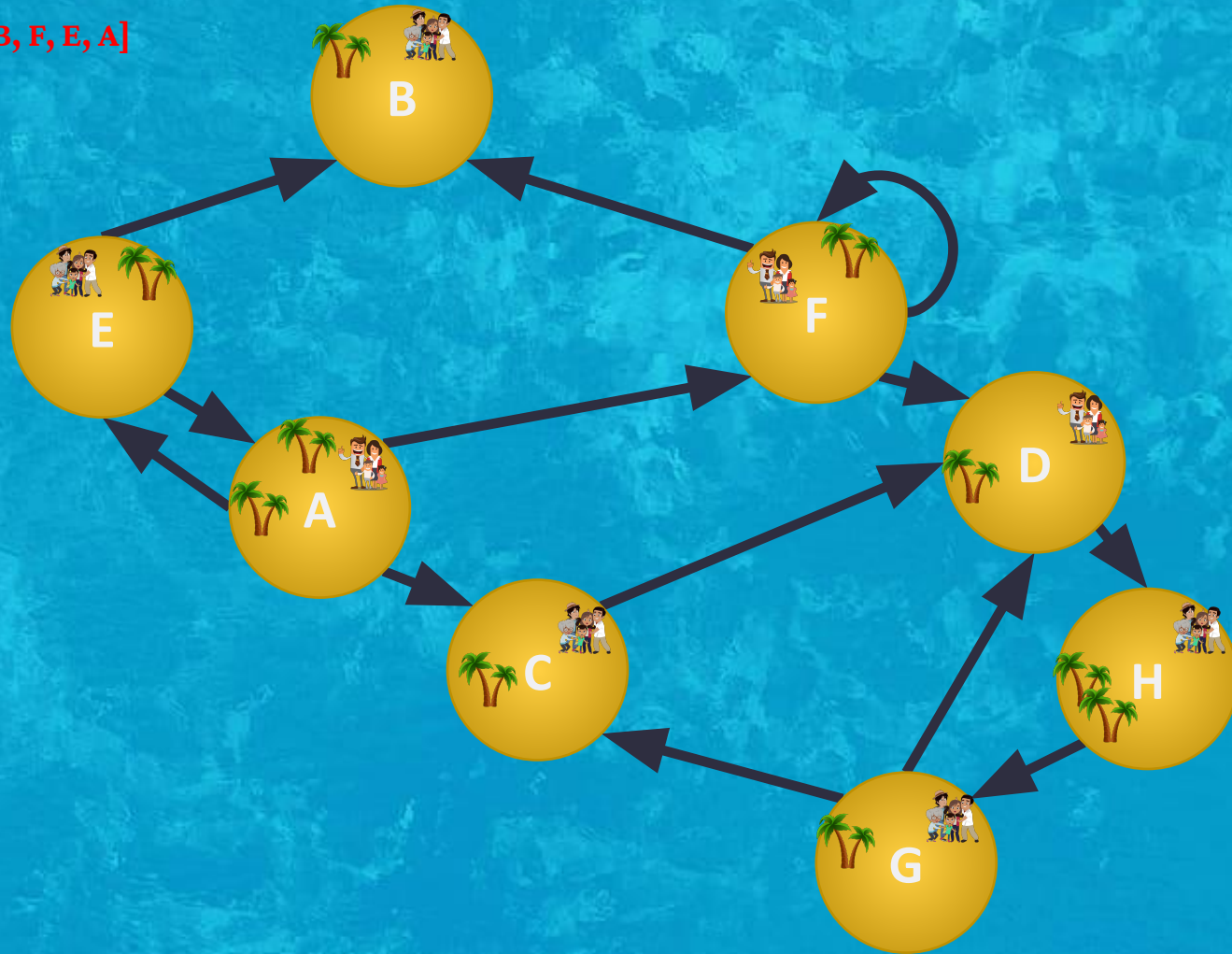
Recuerden:

1. Hasta aquí ha sido parecido como con el orden topológico.
2. Ignoramos los ciclos, ya que estos llegan a nodos abiertos (grises) o cerrados (negros).
3. Ahora toca transponer el grafo:



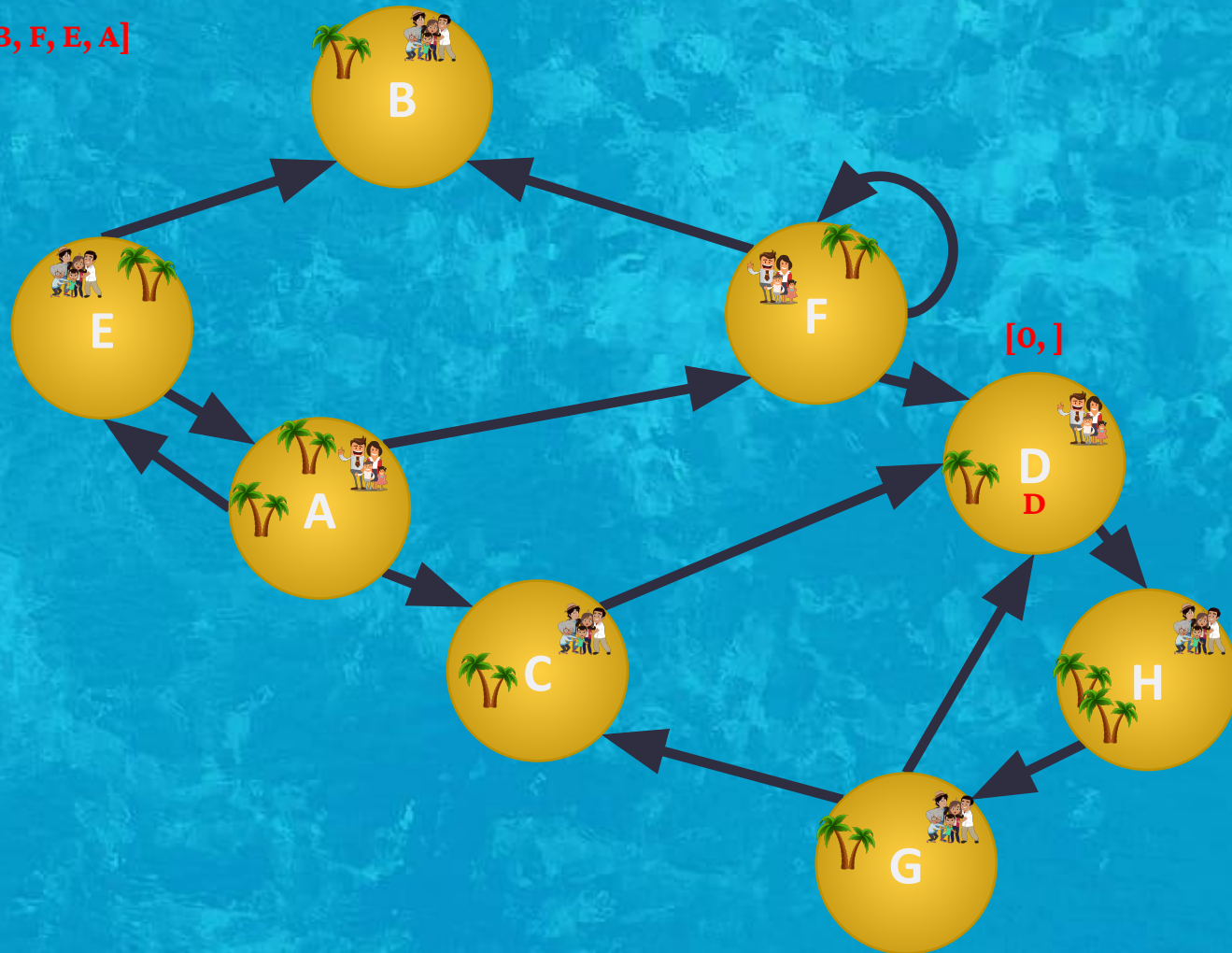
$L = [D, C, G, H, B, F, E, A]$

$S = []$



$L = [D, C, G, H, B, F, E, A]$

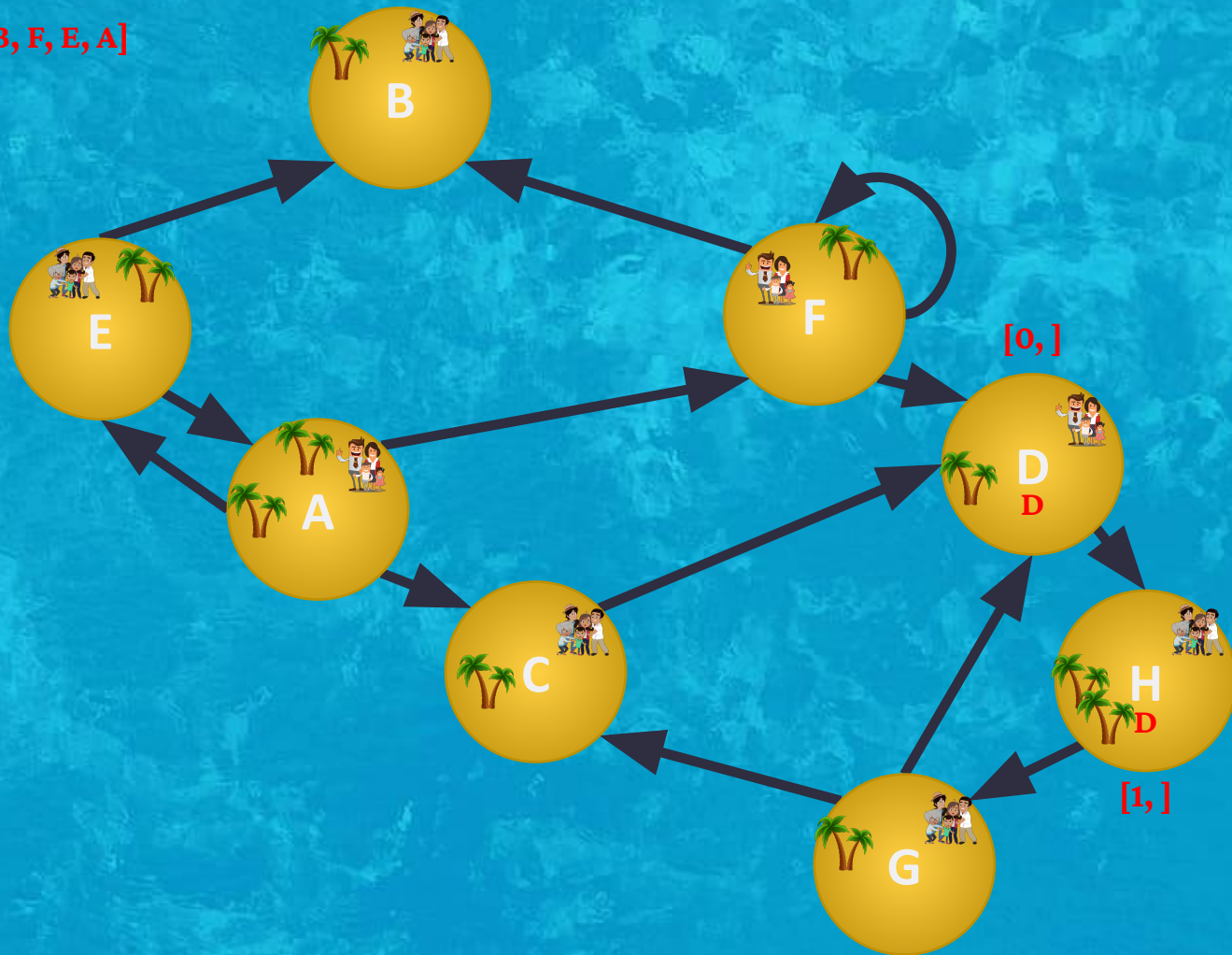
$S = []$



$D: 1$

$L = [D, C, G, H, B, F, E, A]$

$S = []$

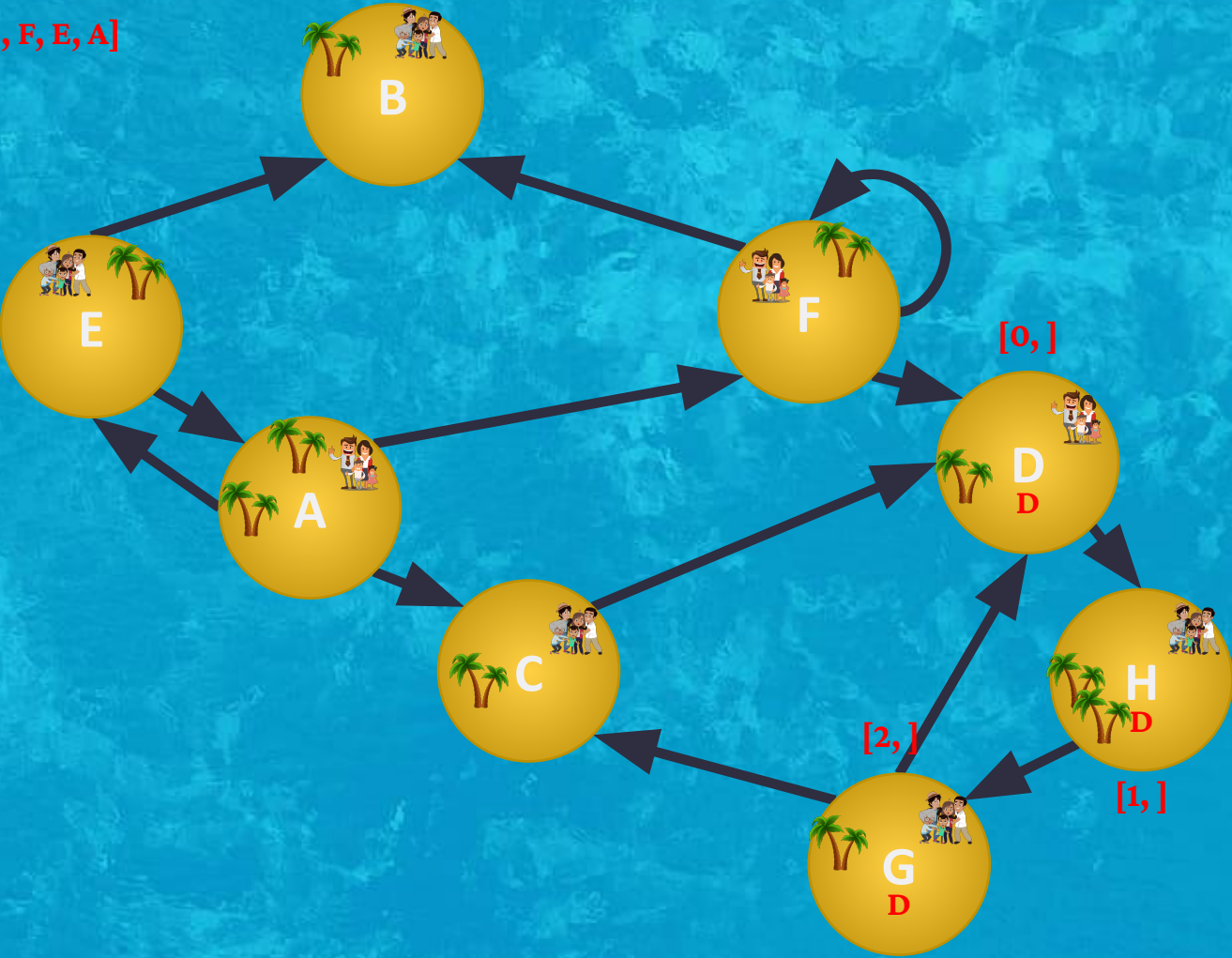


$D: 2$

L = [D, C, G, H, B, F, E, A]

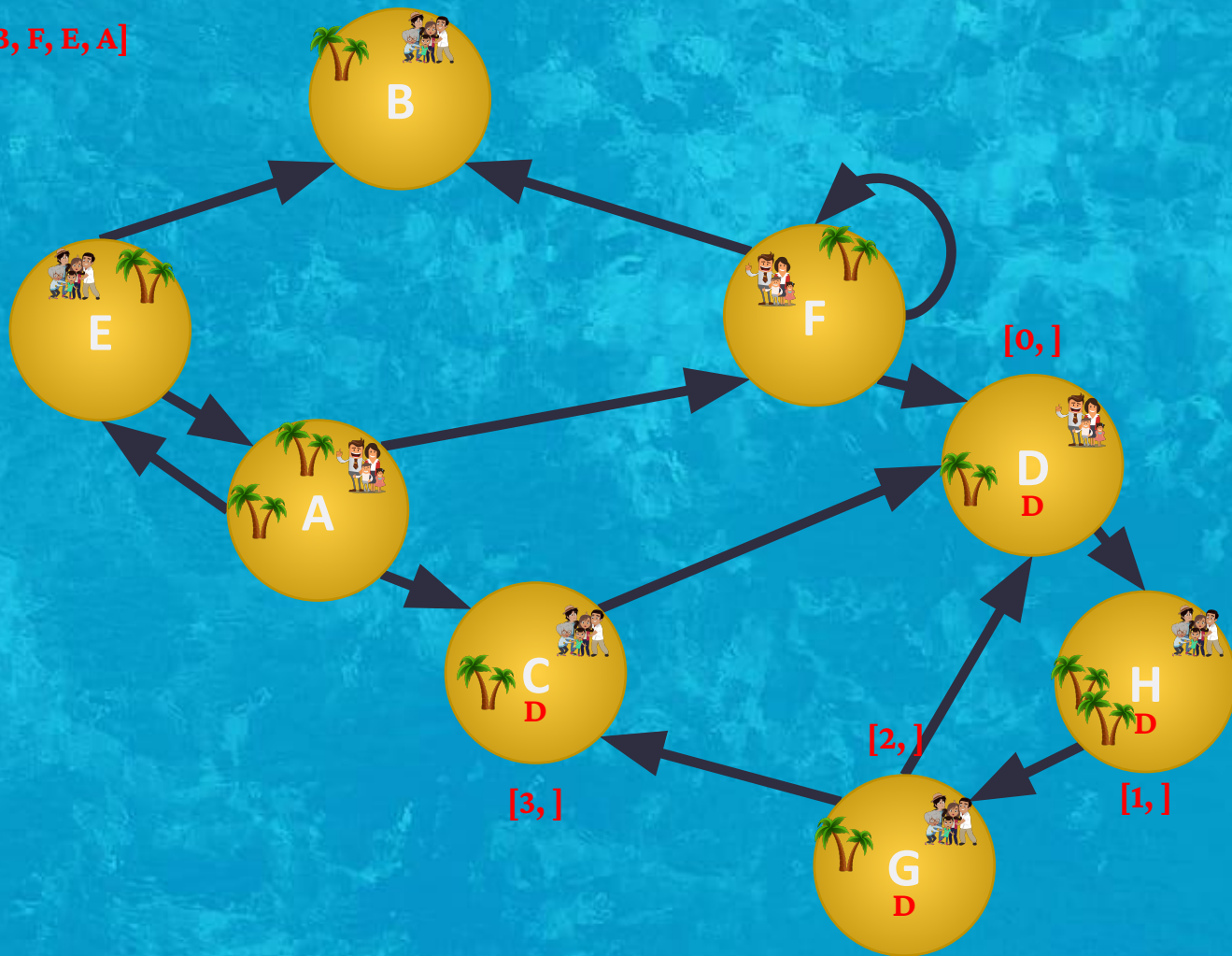
S = []

D: 3



$L = [D, C, G, H, B, F, E, A]$

$S = []$

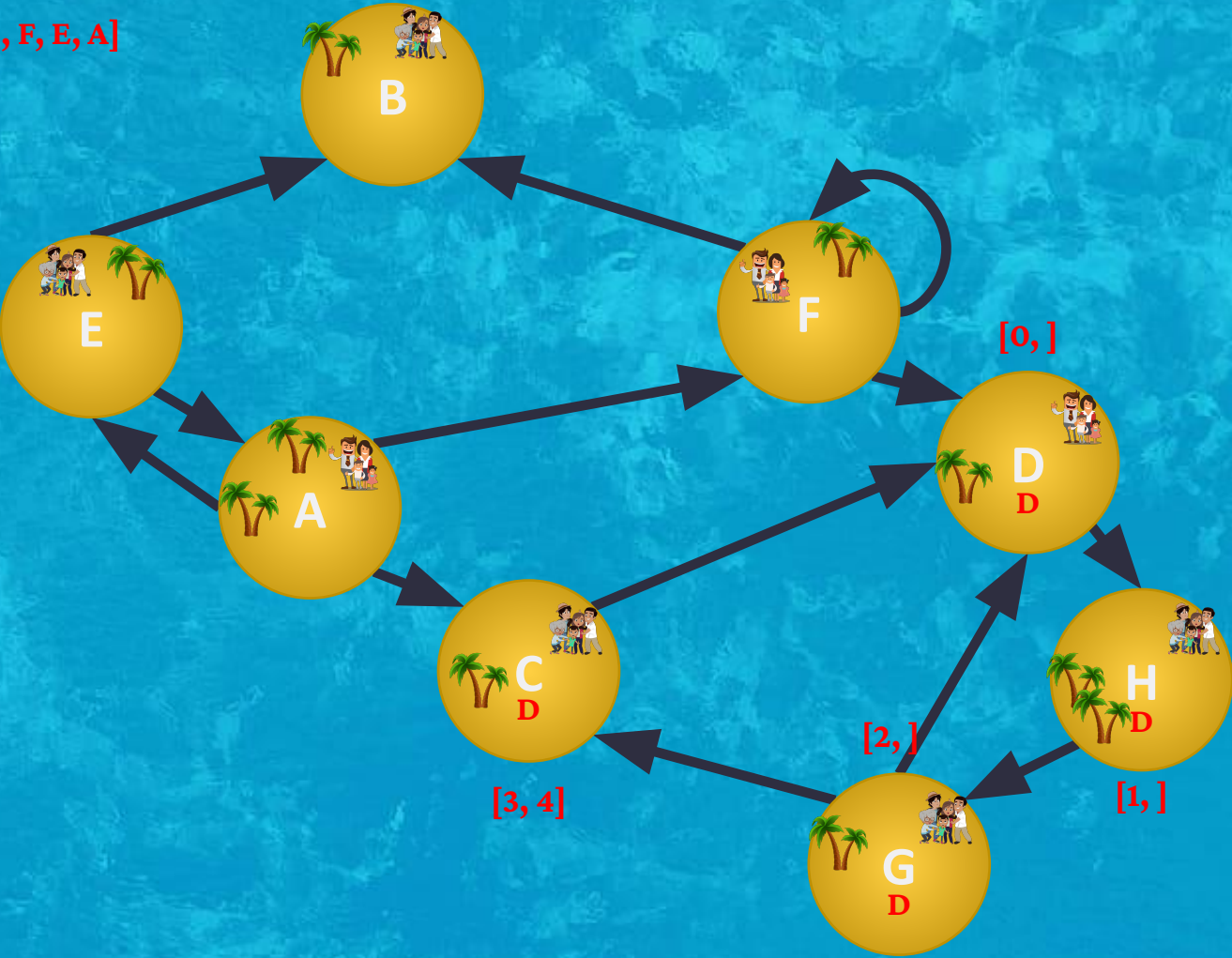


$D: 4$

L = [D, C, G, H, B, F, E, A]

S = []

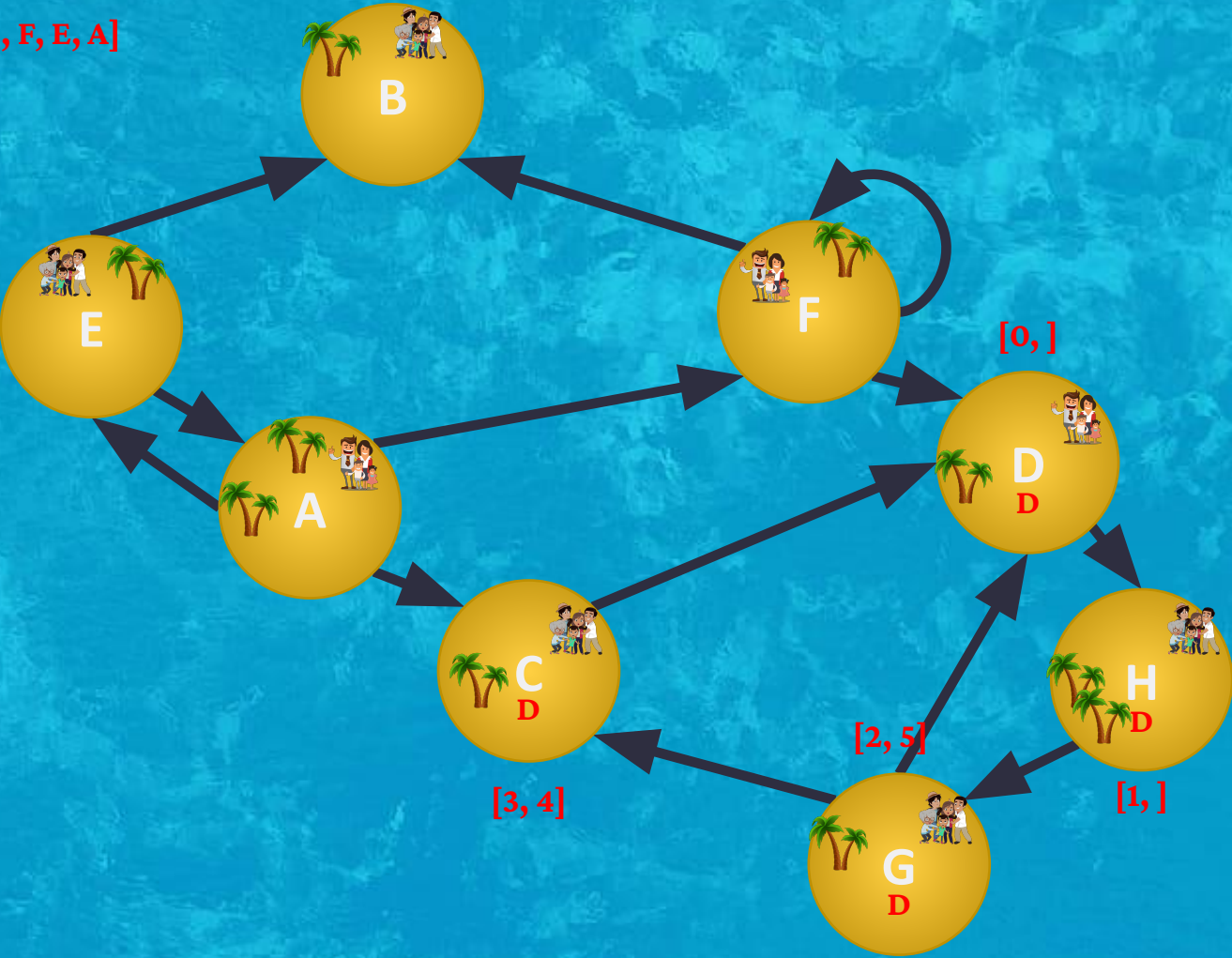
D: 4



L = [D, C, G, H, B, F, E, A]

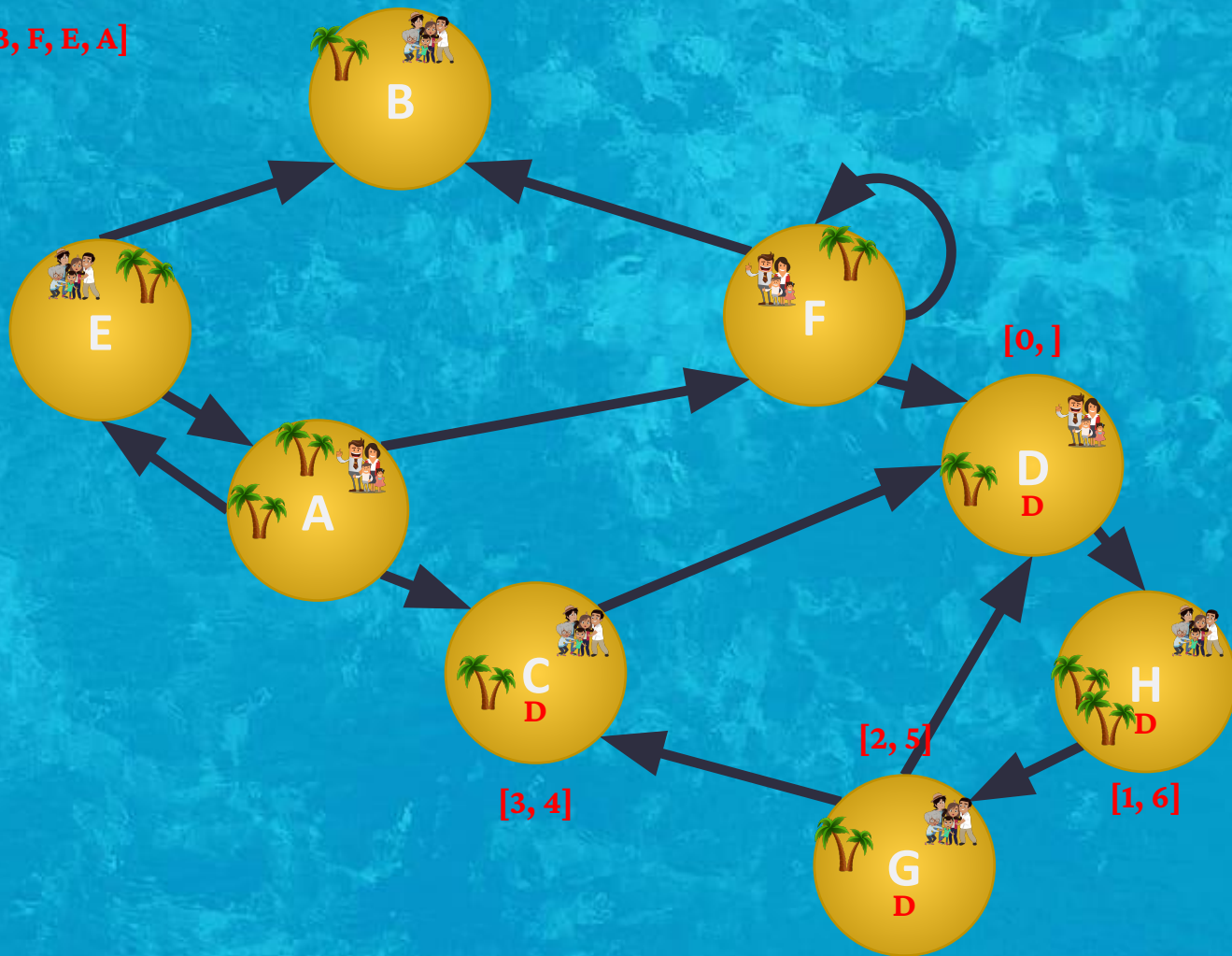
S = []

D: 4



$L = [D, C, G, H, B, F, E, A]$

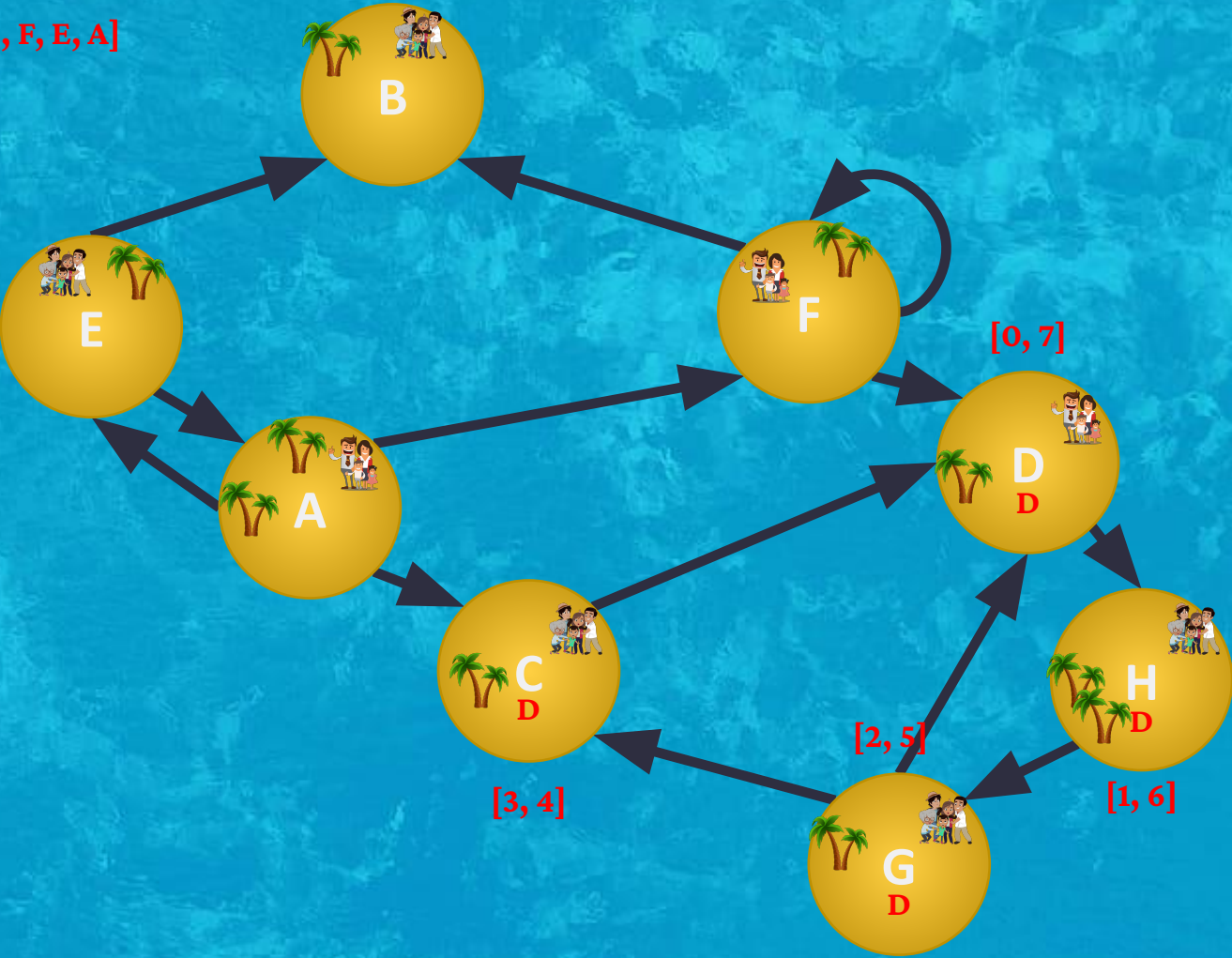
$S = []$



L = [D, C, G, H, B, F, E, A]

S = [D]

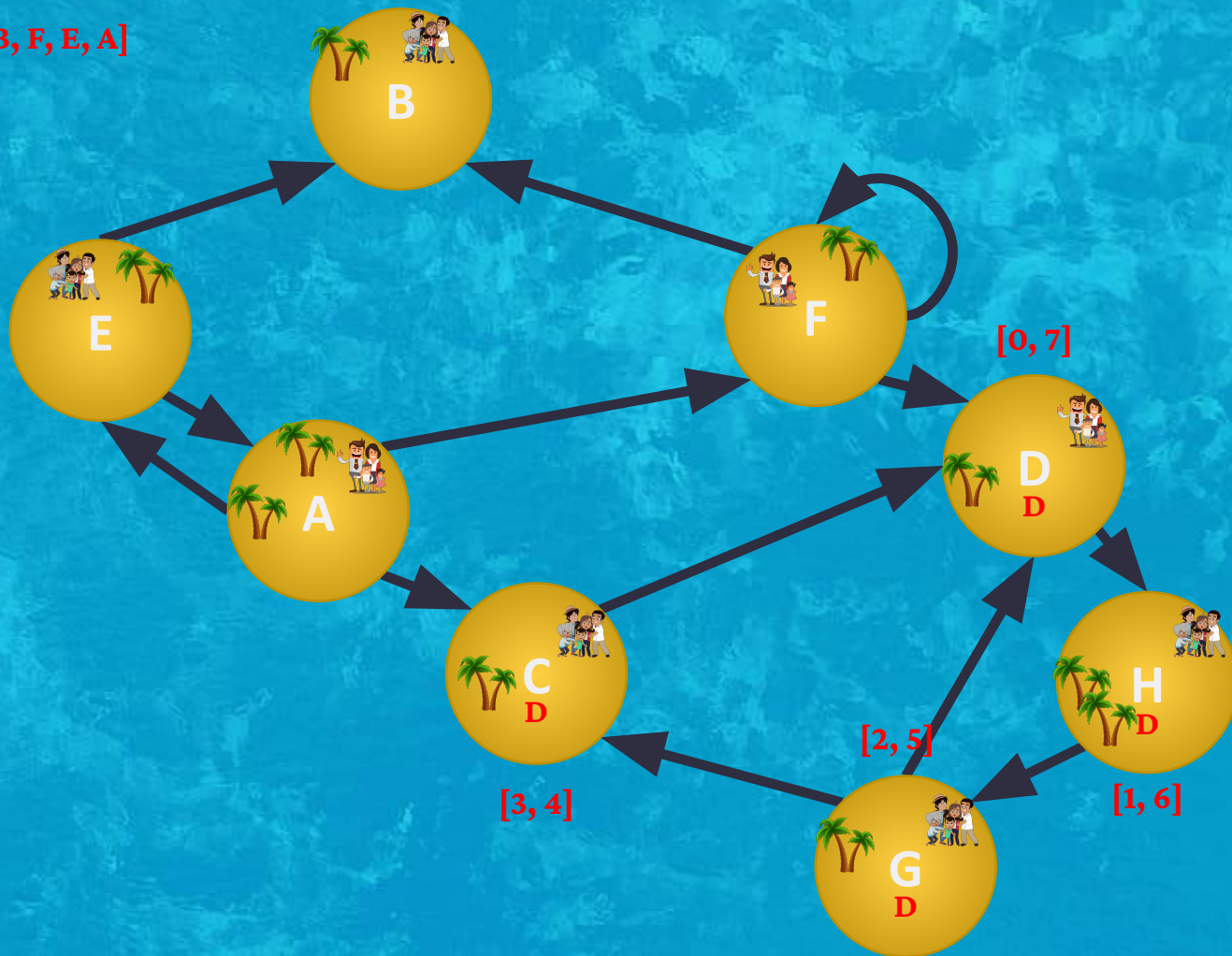
D: 4



$L = [D, C, G, H, B, F, E, A]$

$S = [D]$

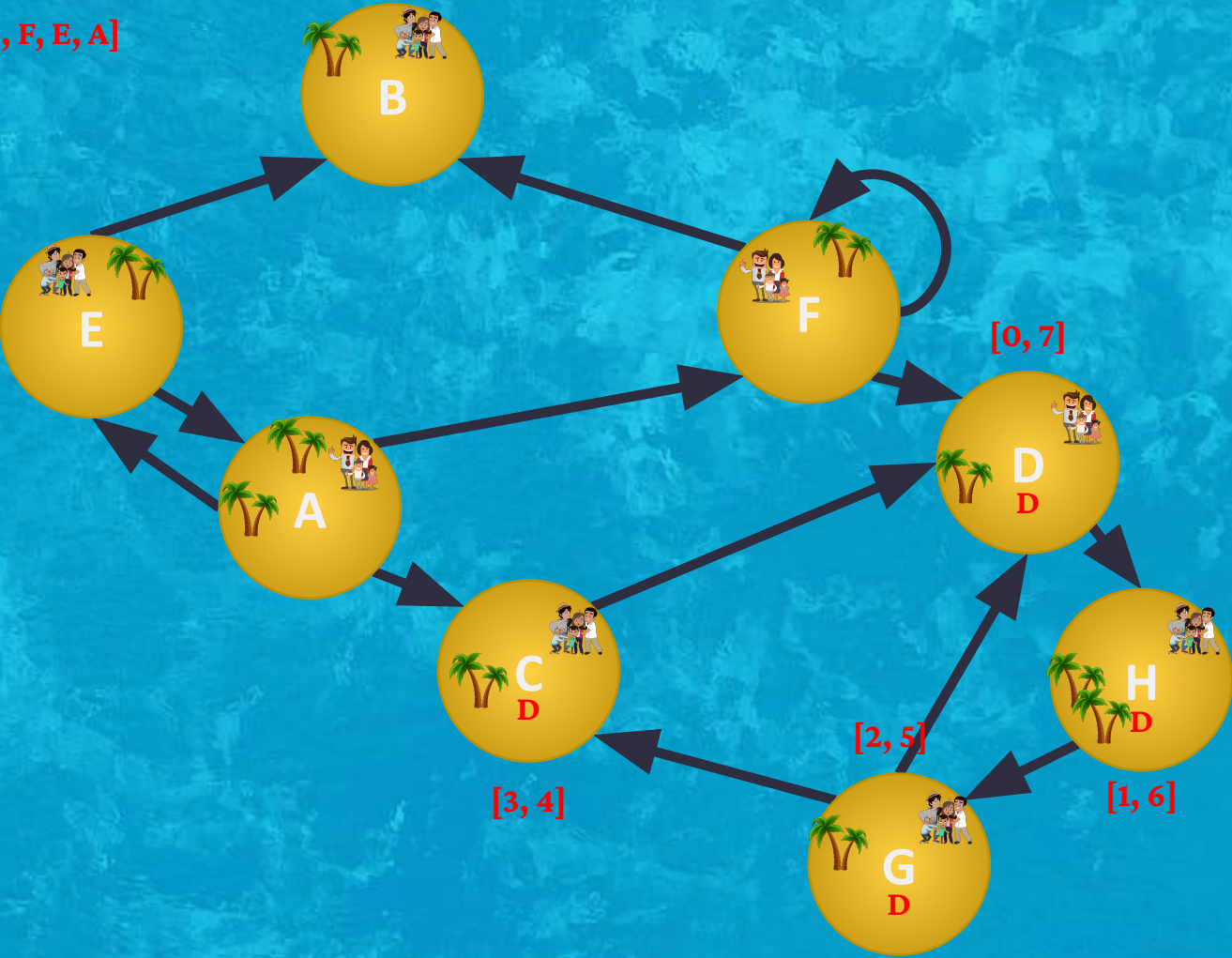
$D: 4$



L = [D, C, G, H, B, F, E, A]

S = [D]

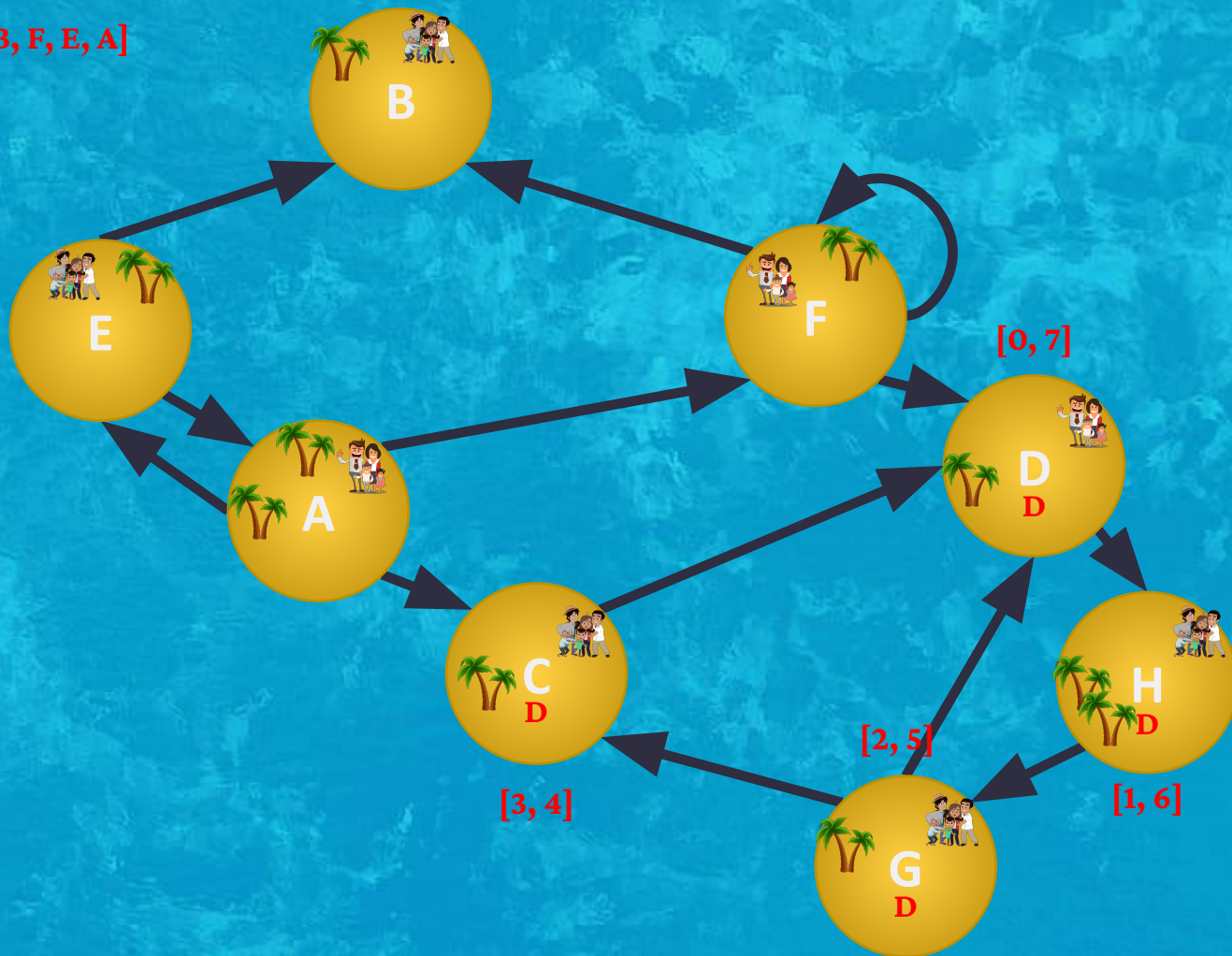
D: 4



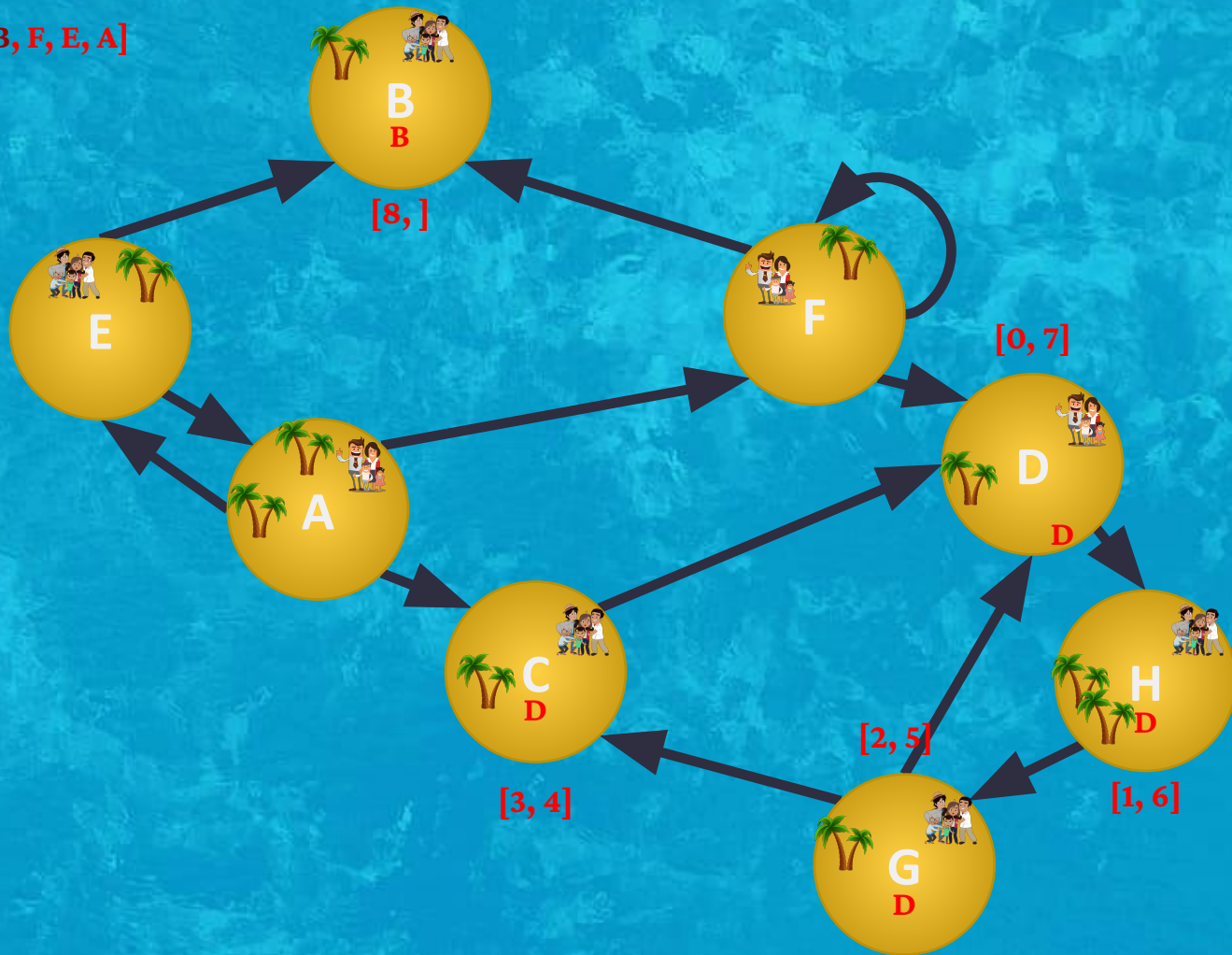
$L = [D, C, G, H, B, F, E, A]$

$S = [D]$

$D: 4$



L = [D, C, G, H, B, F, E, A]

$$S = [D]$$


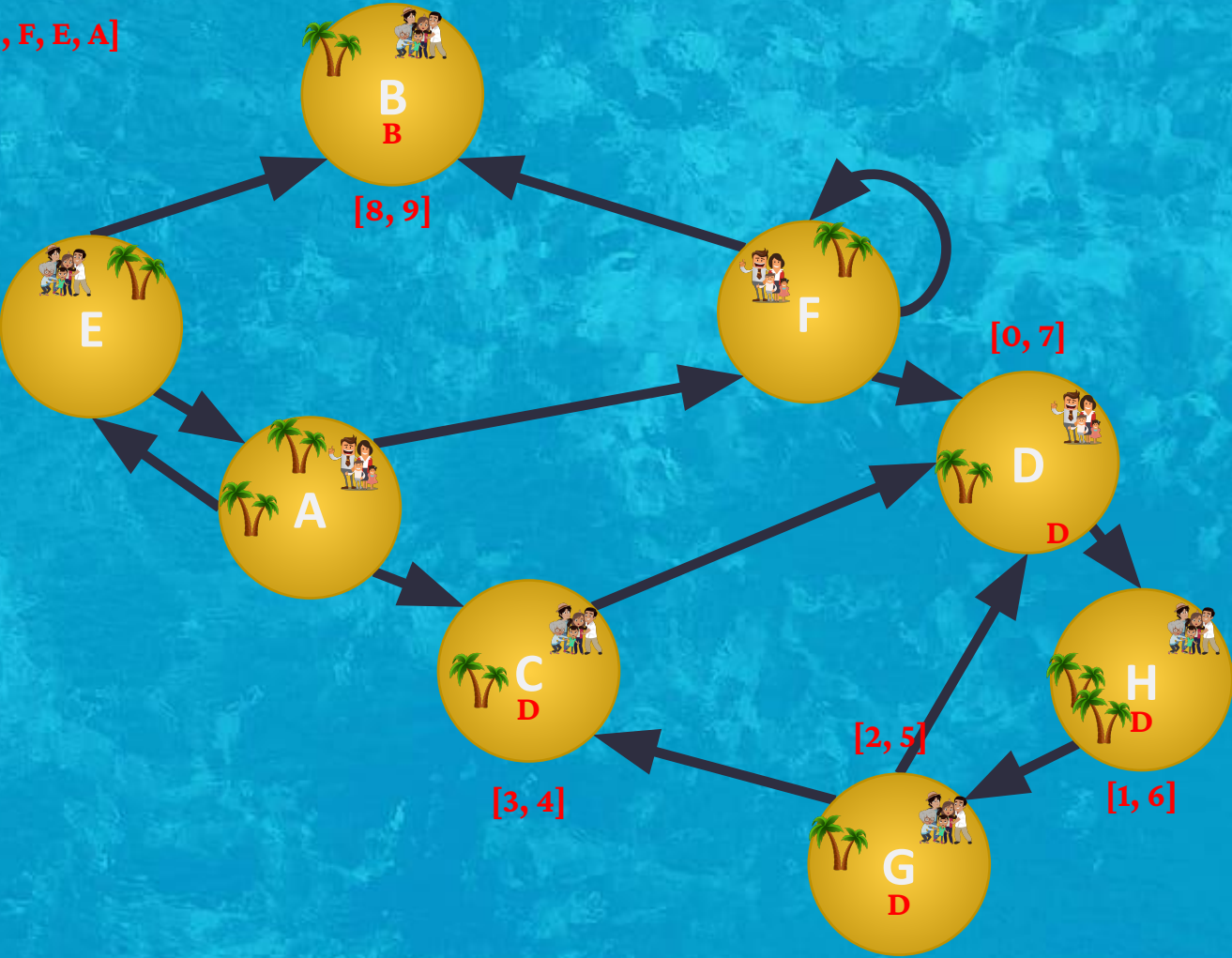
D: 4

B: 1

L = [D, C, G, H, B, F, E, A]

S = [B, D]

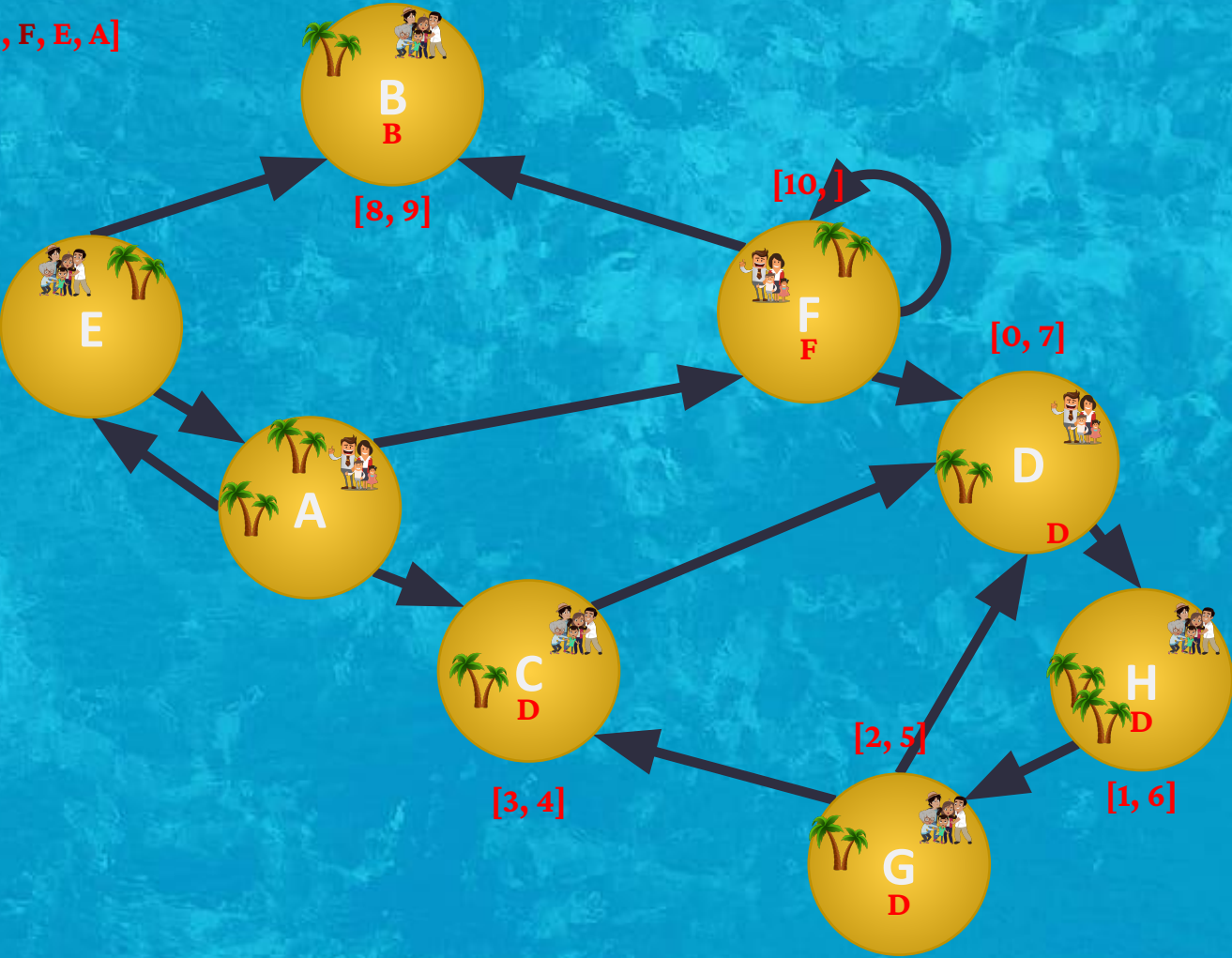
D: 4
B: 1



L = [D, C, G, H, B, F, E, A]

S = [B, D]

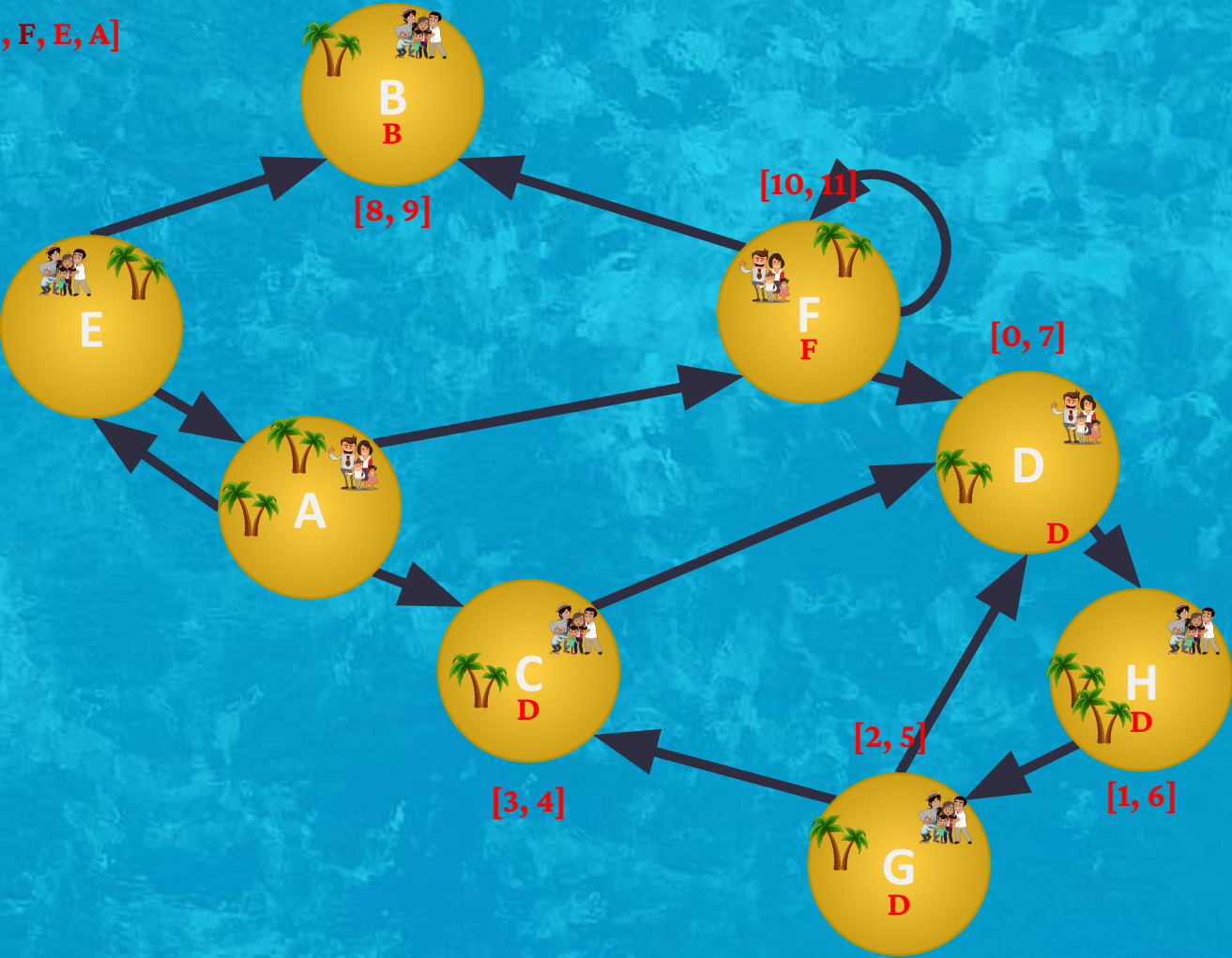
D: 4
B: 1
F: 1



L = [D, C, G, H, B, F, E, A]

S = [F, B, D]

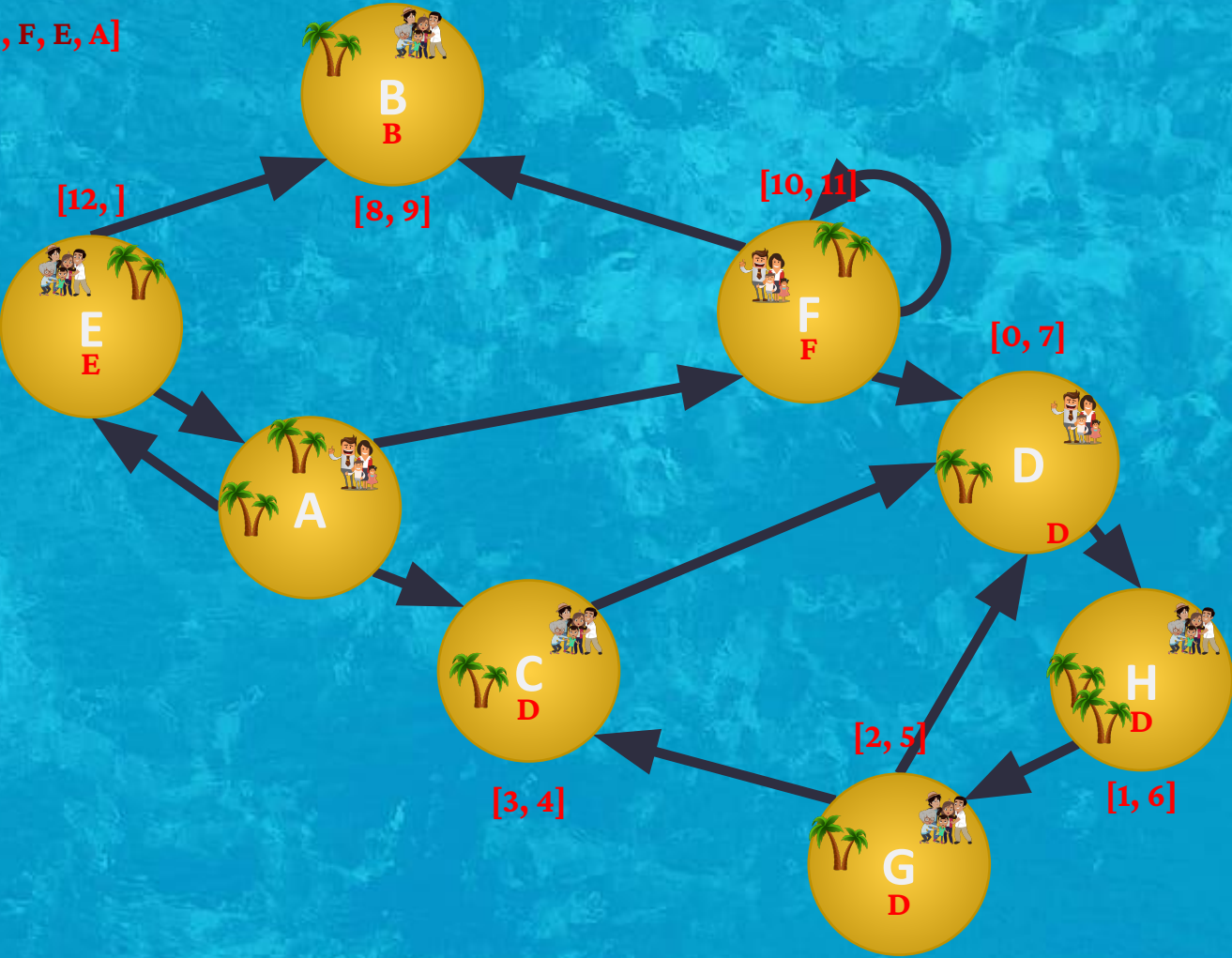
D: 4
B: 1
F: 1



L = [D, C, G, H, B, F, E, A]

S = [F, B, D]

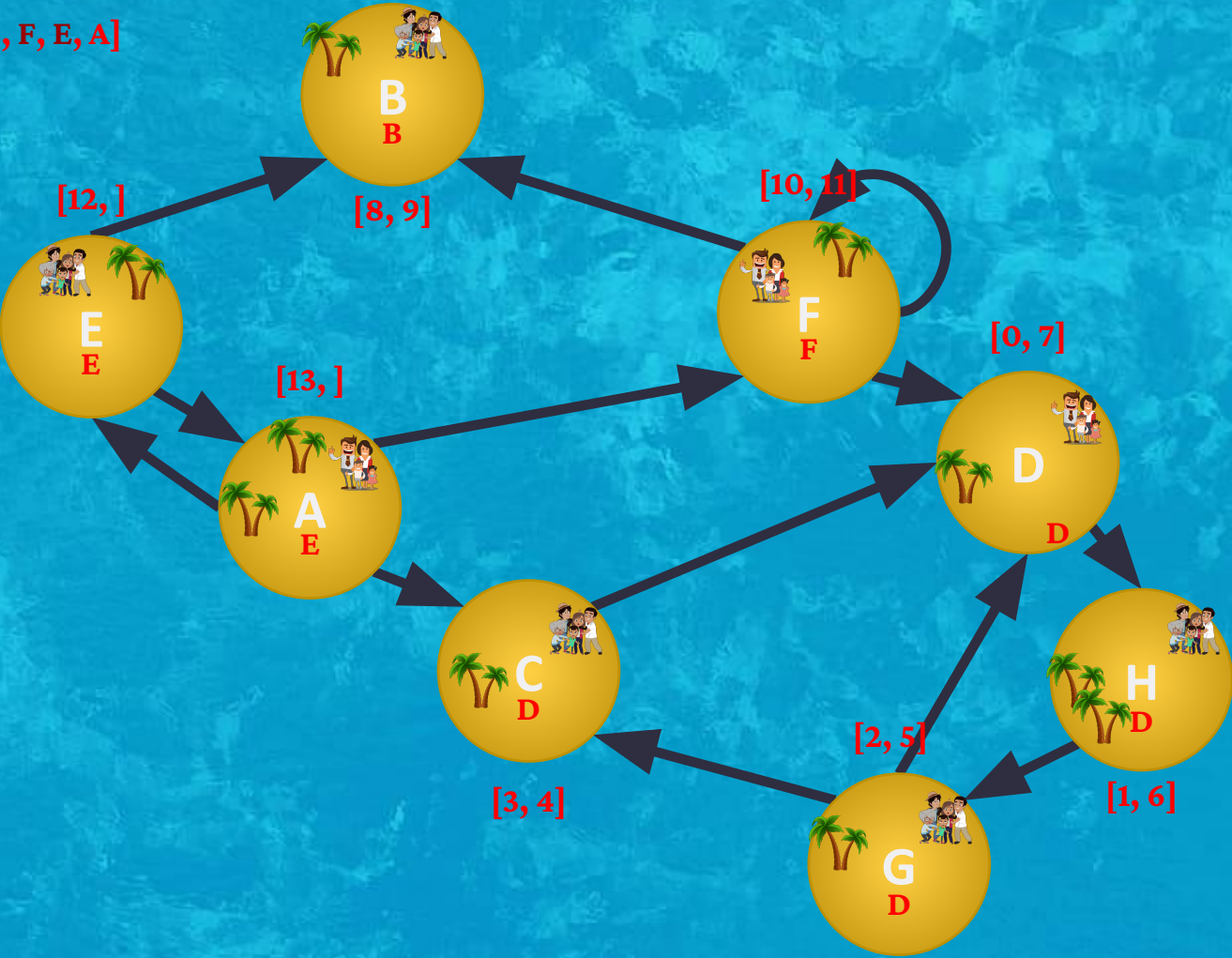
D: 4
B: 1
F: 1
E: 1



L = [D, C, G, H, B, F, E, A]

S = [F, B, D]

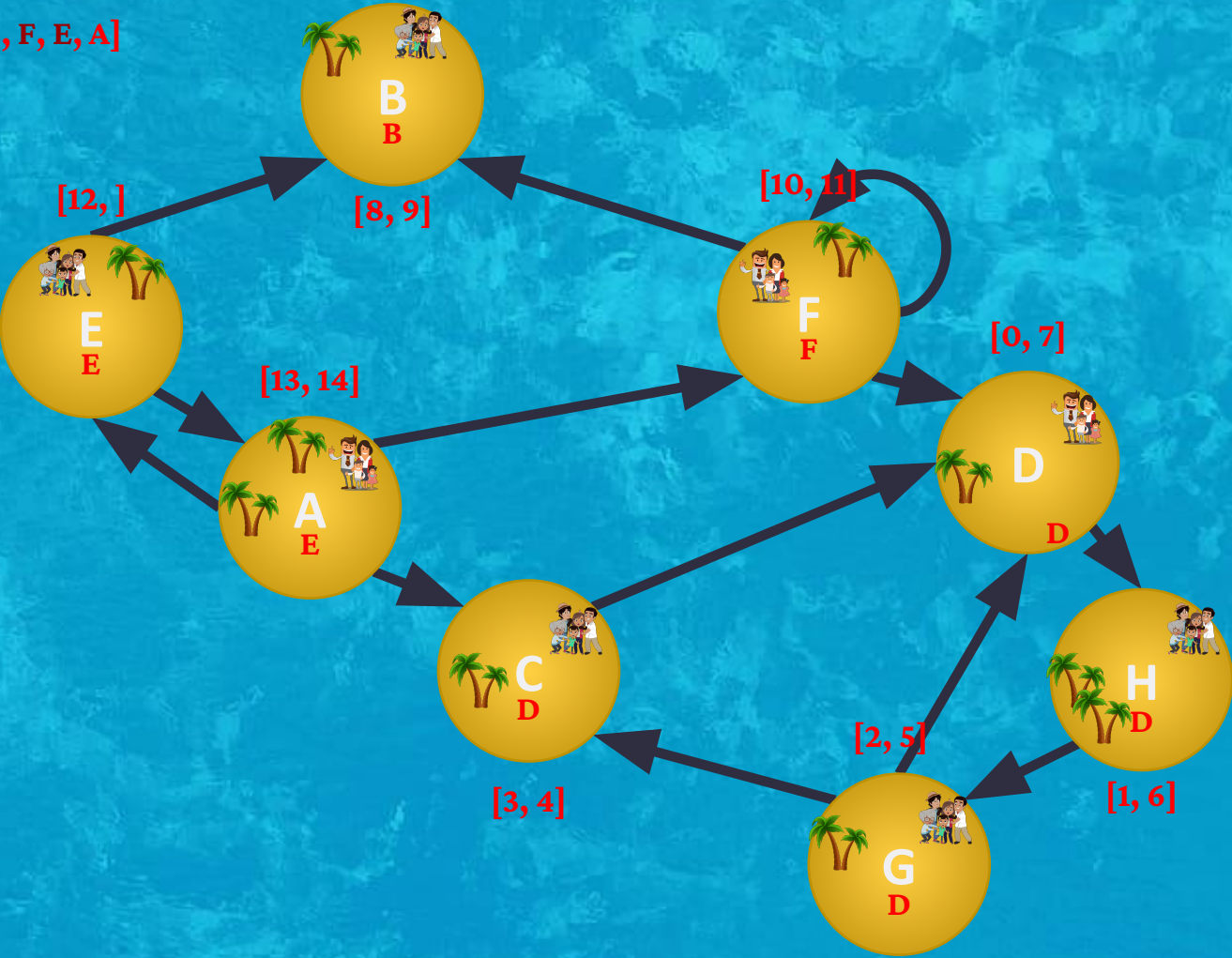
D: 4
B: 1
F: 1
E: 2



$L = [D, C, G, H, B, F, E, A]$

$S = [F, B, D]$

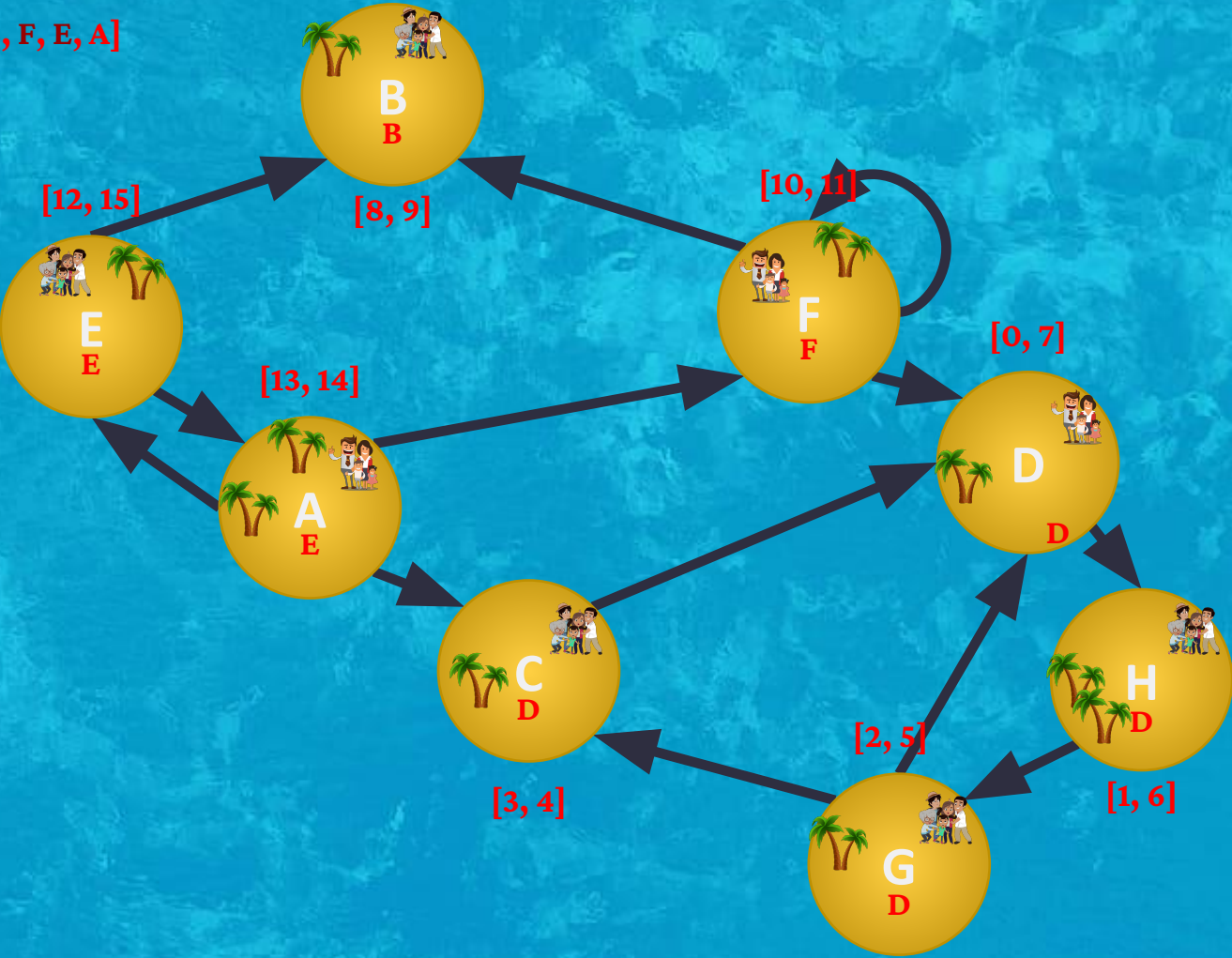
D: 4
B: 1
F: 1
E: 2



L = [D, C, G, H, B, F, E, A]

S = [E, F, B, D]

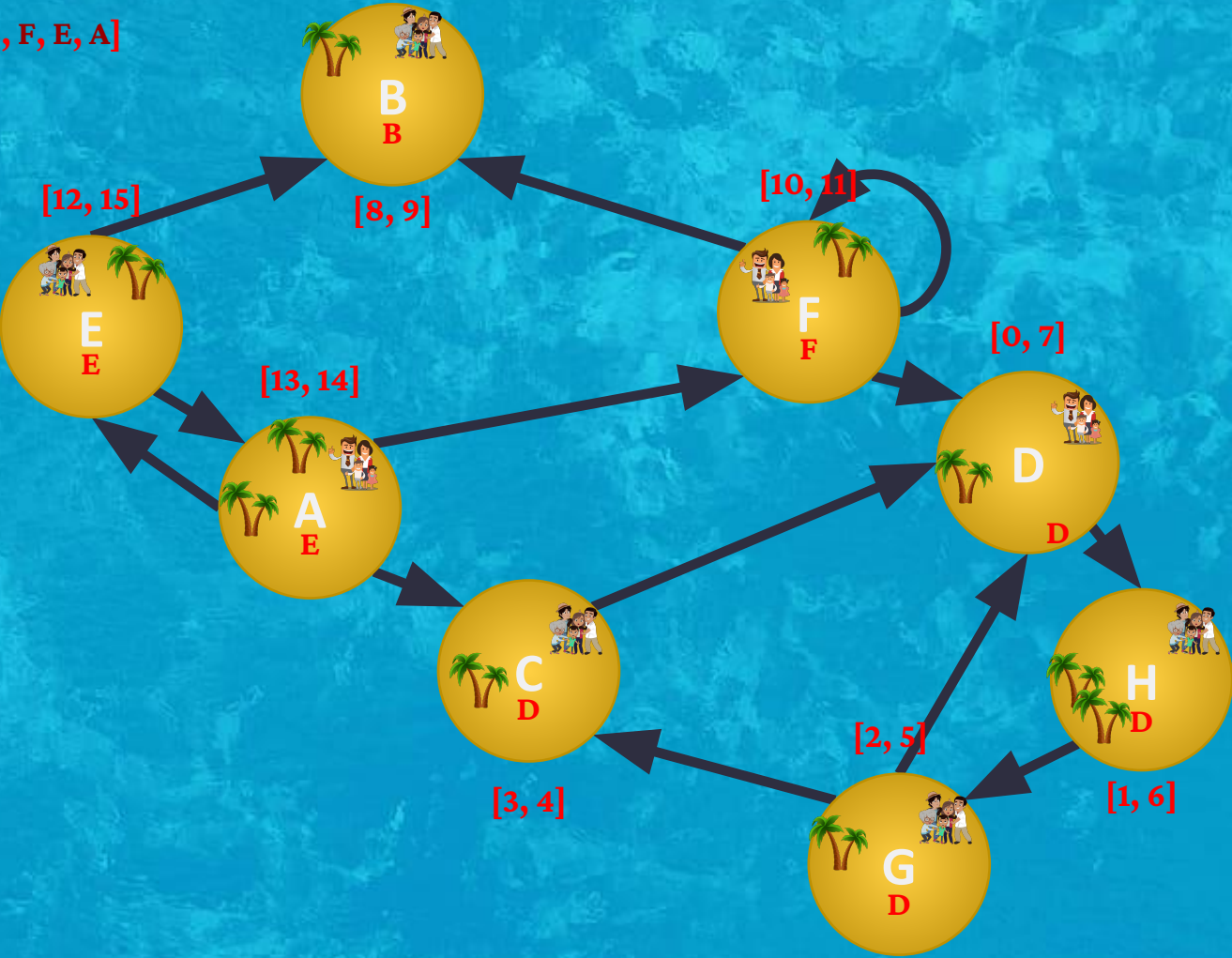
D: 4
B: 1
F: 1
E: 2



L = [D, C, G, H, B, F, E, A]

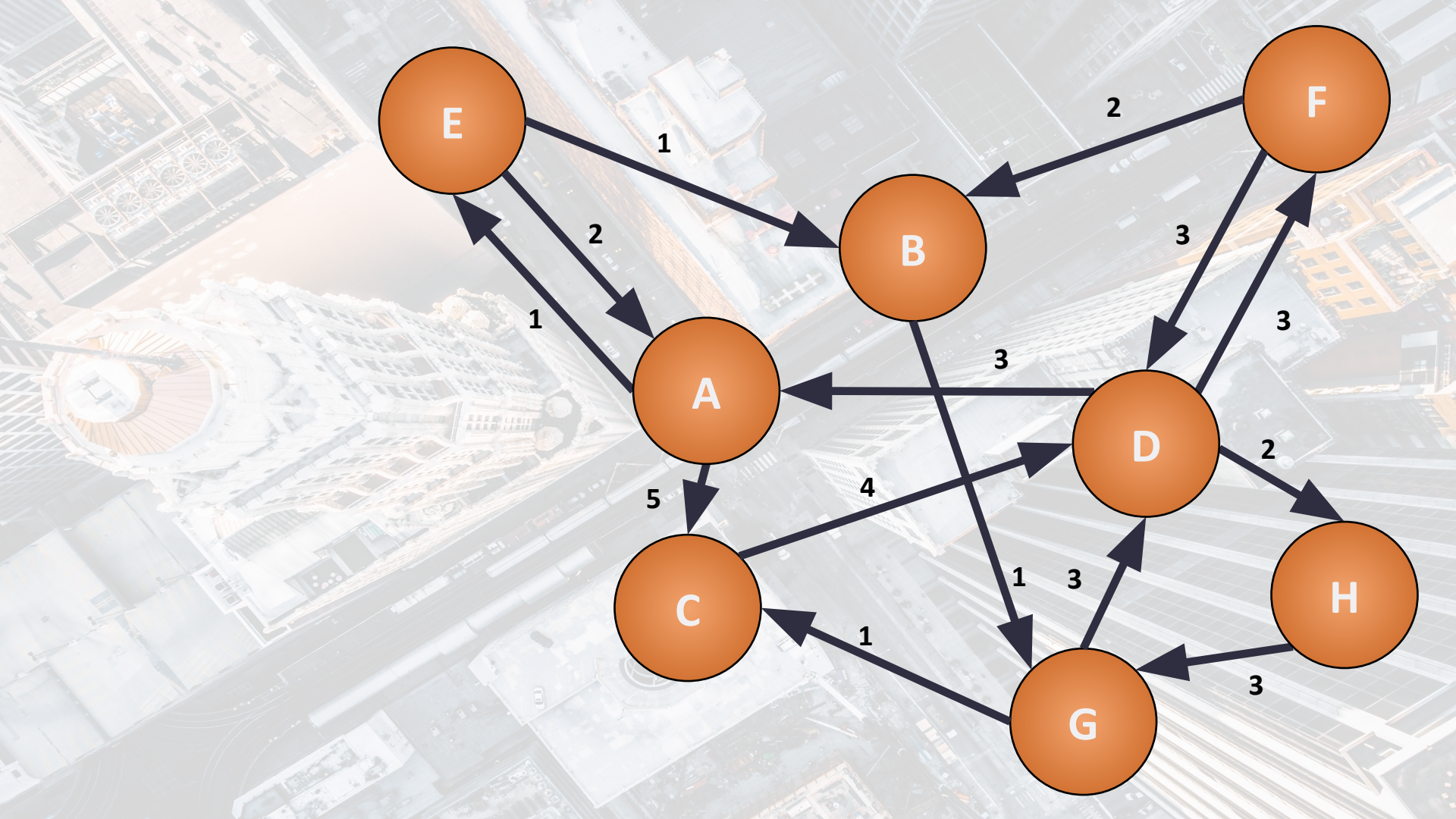
S = [E, F, B, D]

D: 4
B: 1
F: 1
E: 2

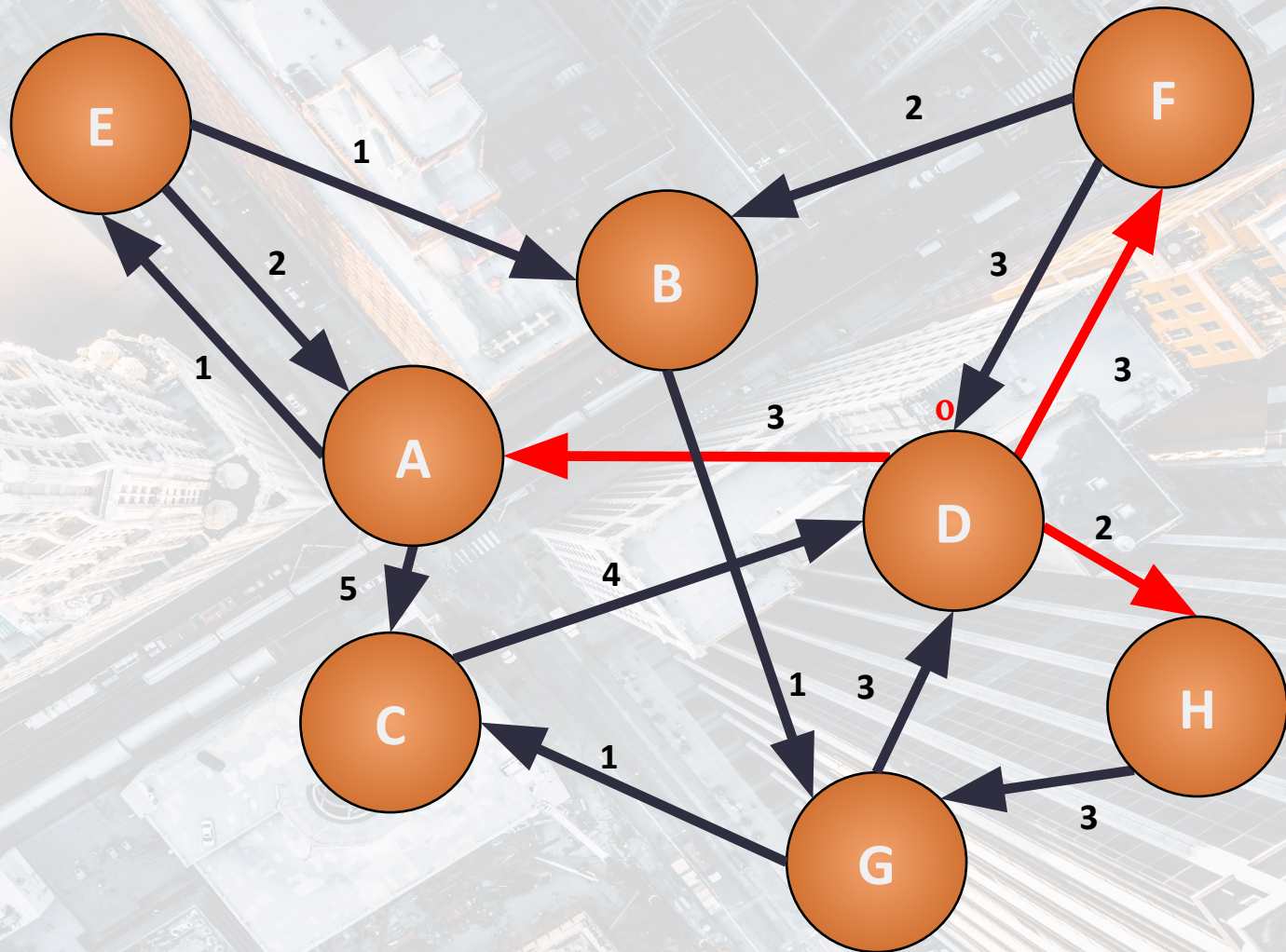
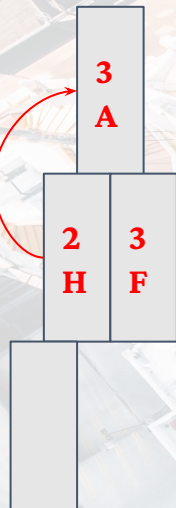


Sea el siguiente grafo con caminos: cada nodo es un lugar, y los costos de las aristas representan cuantas horas se demora en recorrerlas.

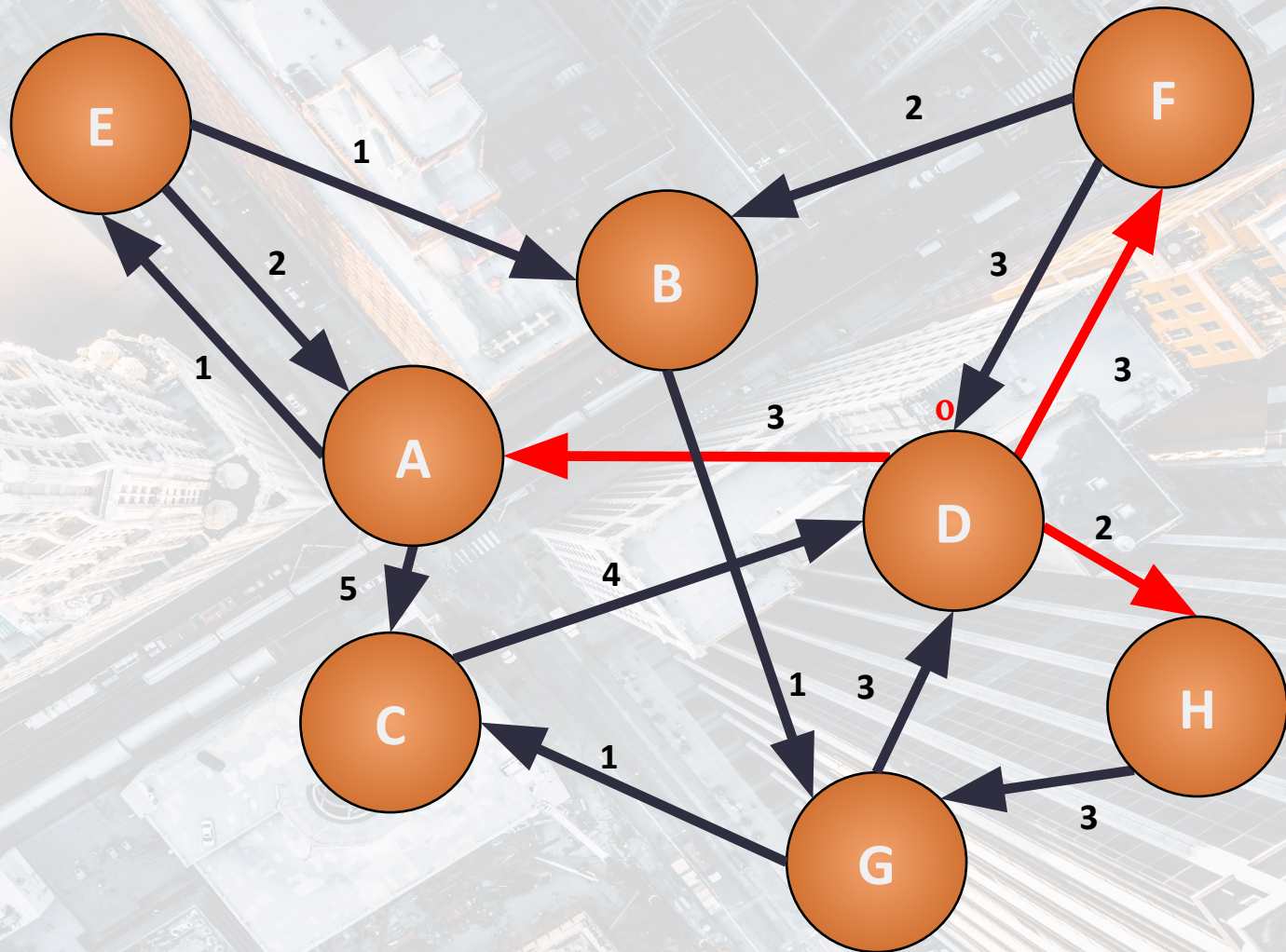
A partir de un lugar específico, ¿Cuál es el lugar al que nos vamos a demorar más en llegar en el mejor caso?



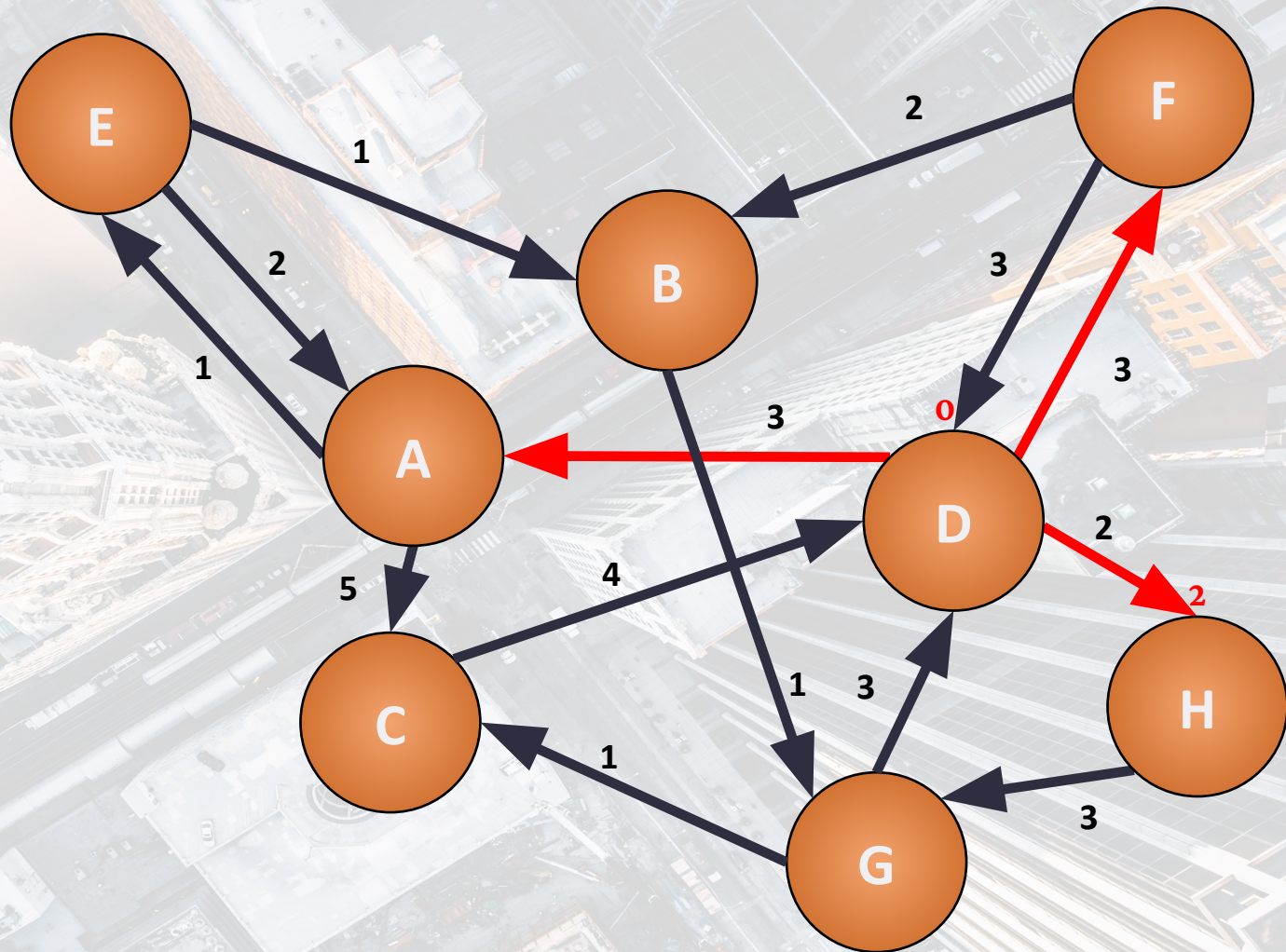
D: 0



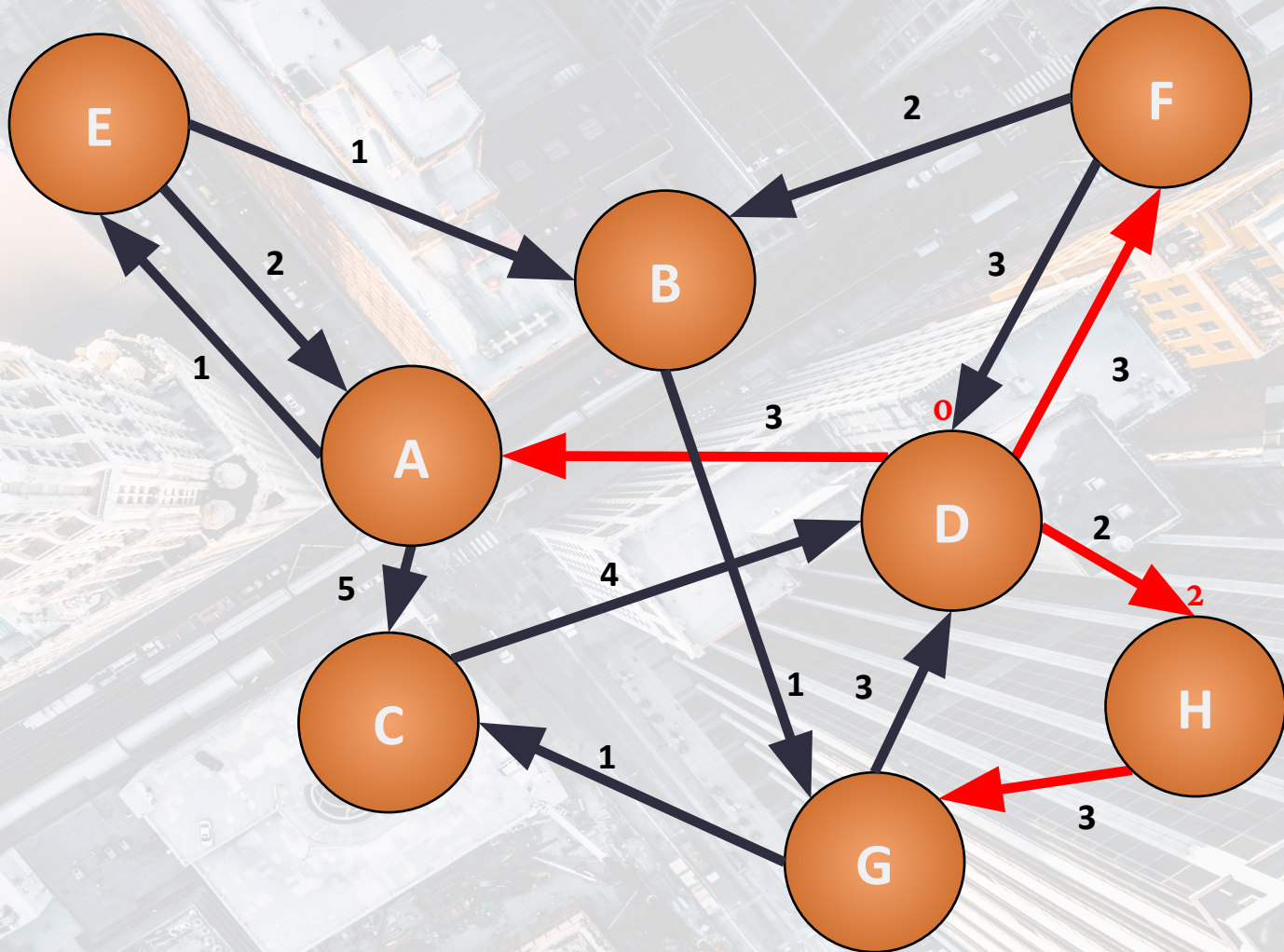
D: 0



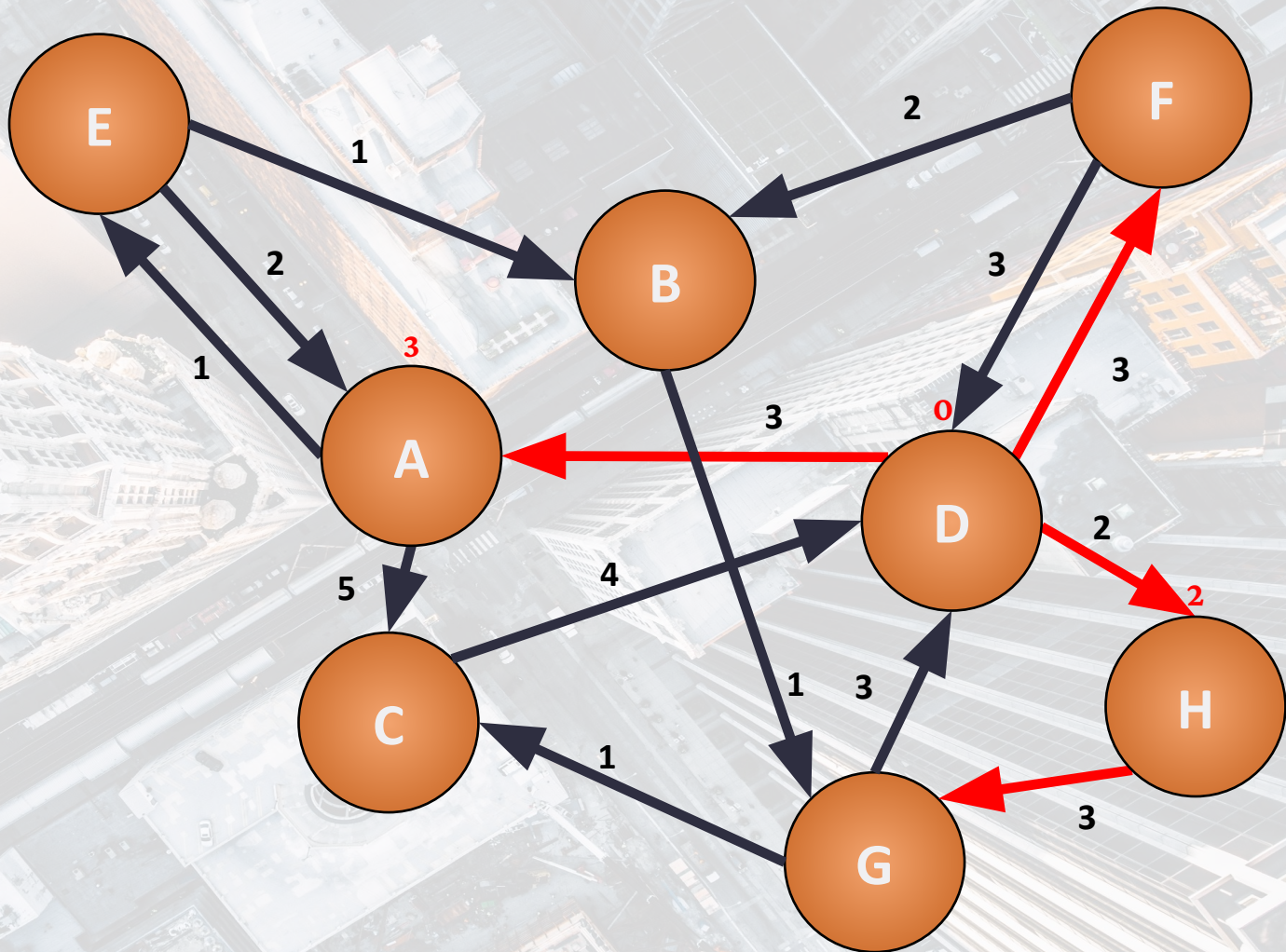
D: 0
H: 2



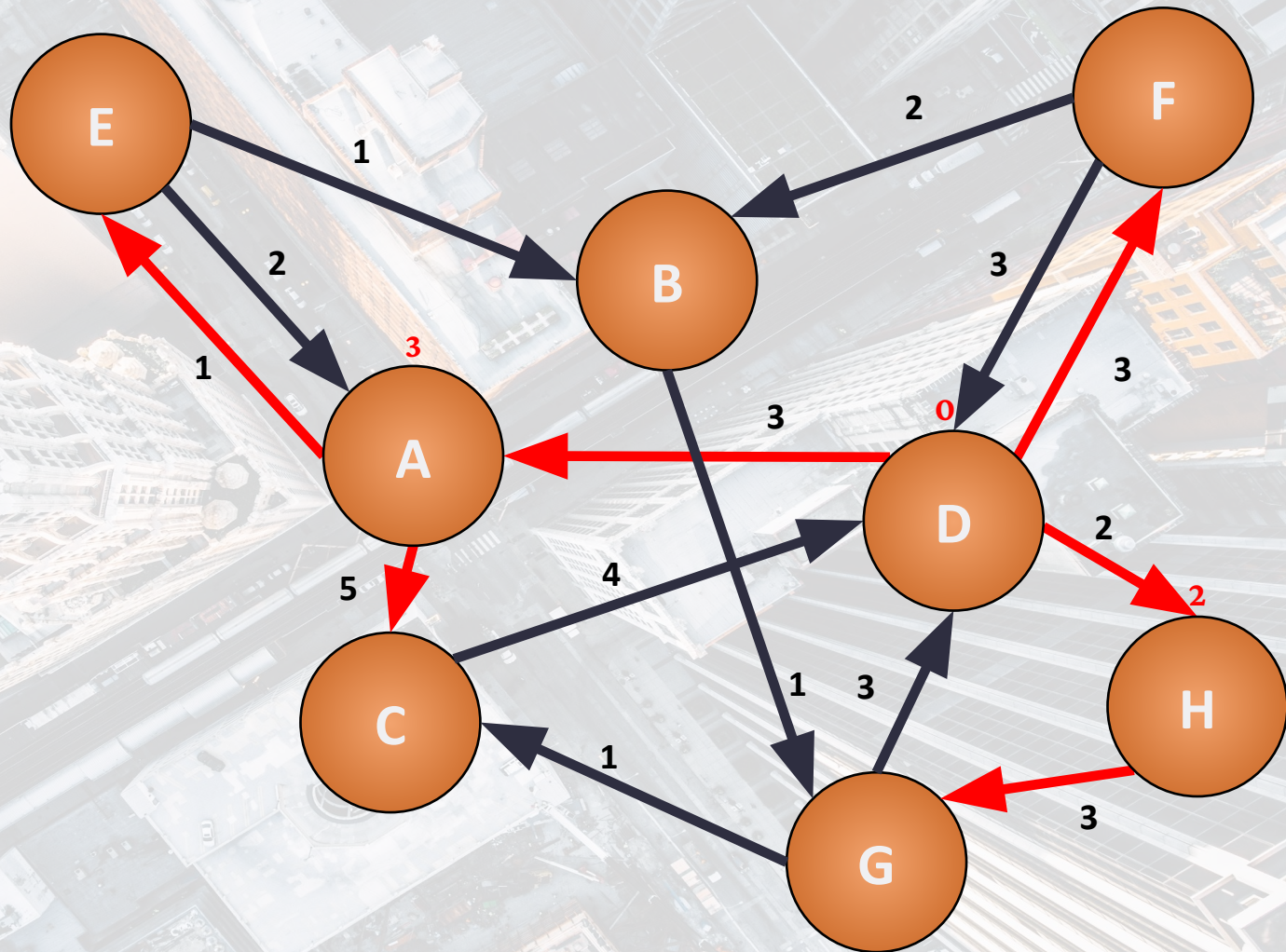
D: 0
H: 2



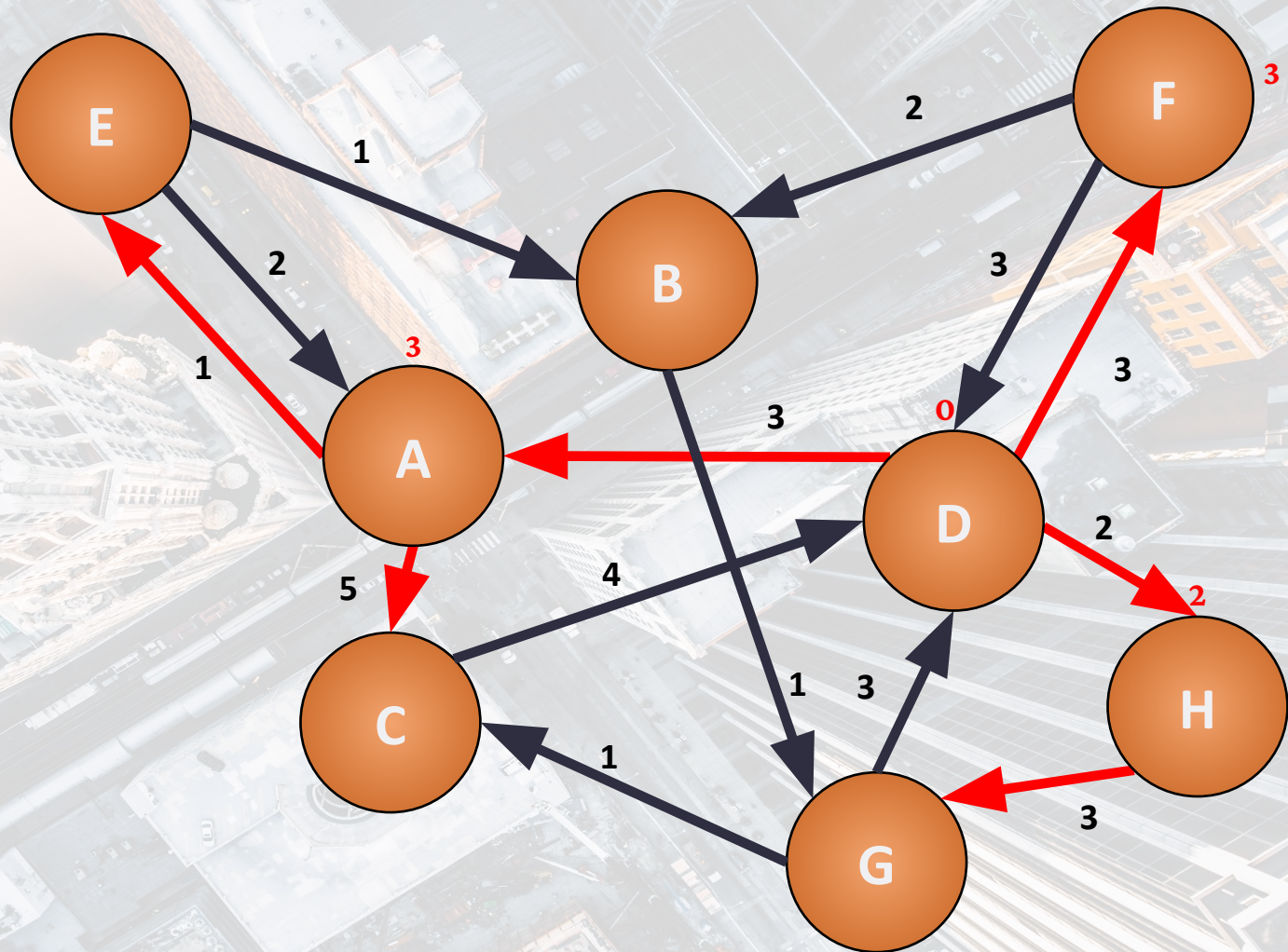
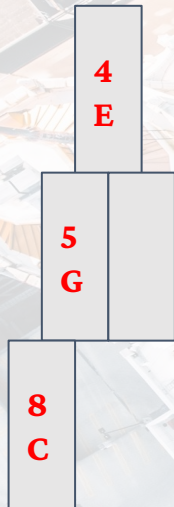
D: 0
H: 2
A: 3



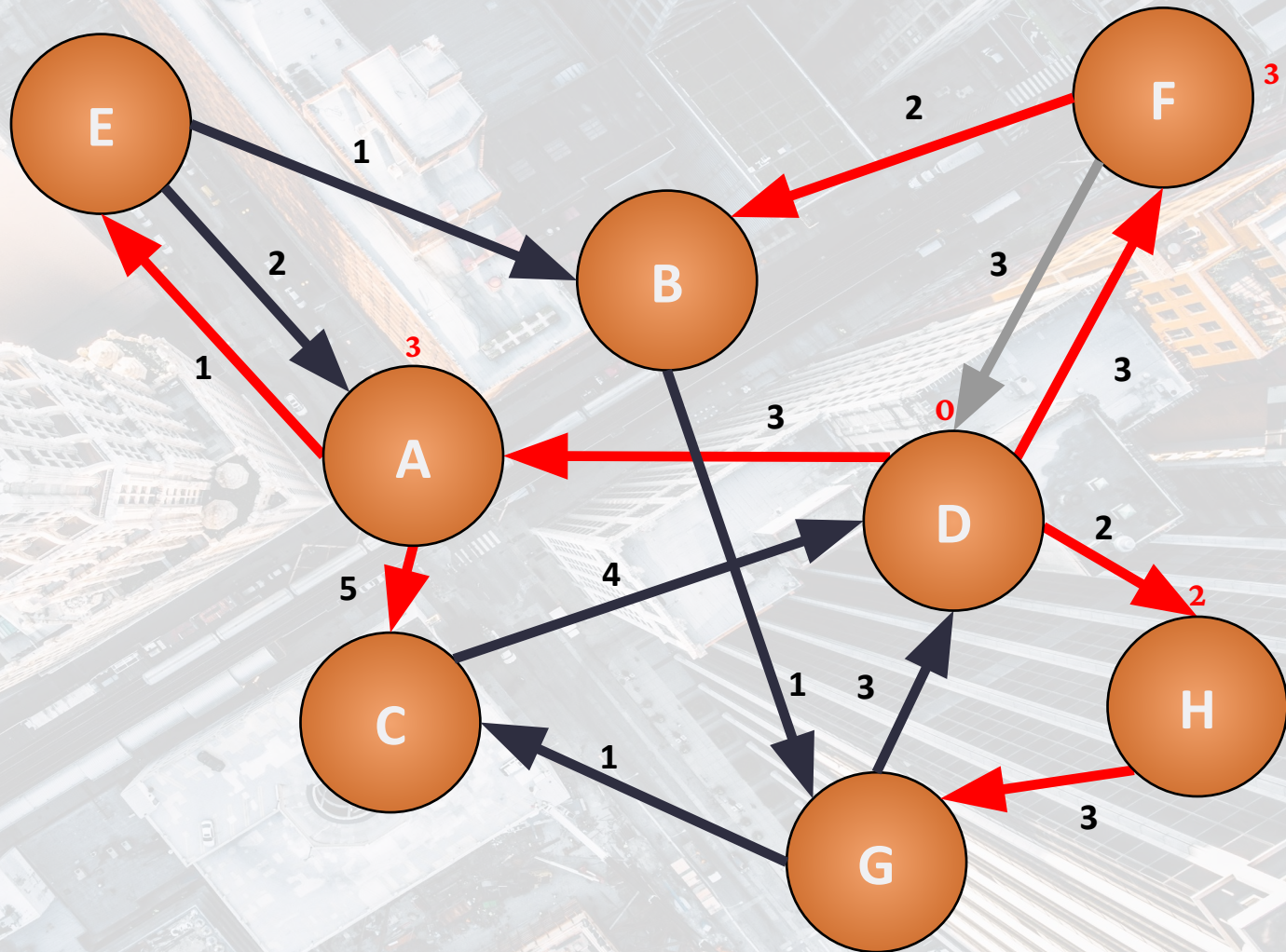
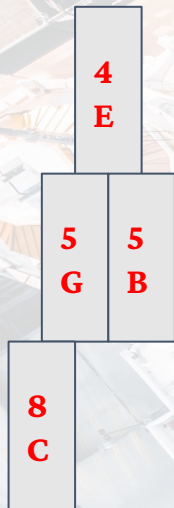
D: 0
H: 2
A: 3



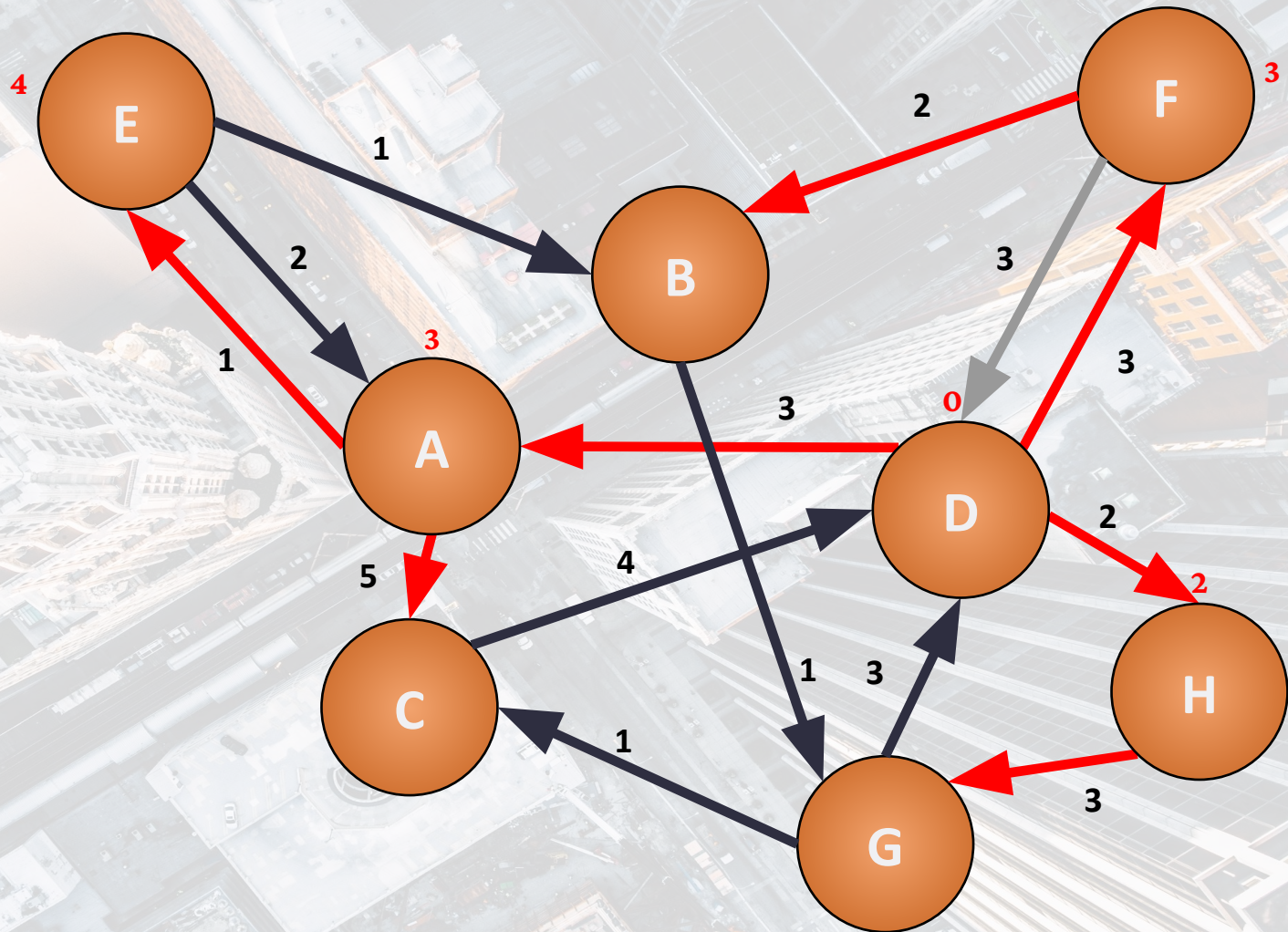
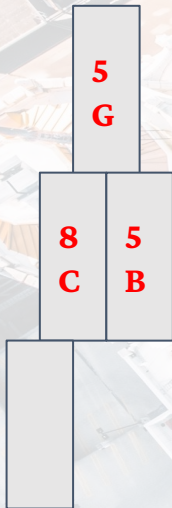
D: 0
H: 2
A: 3
F: 3



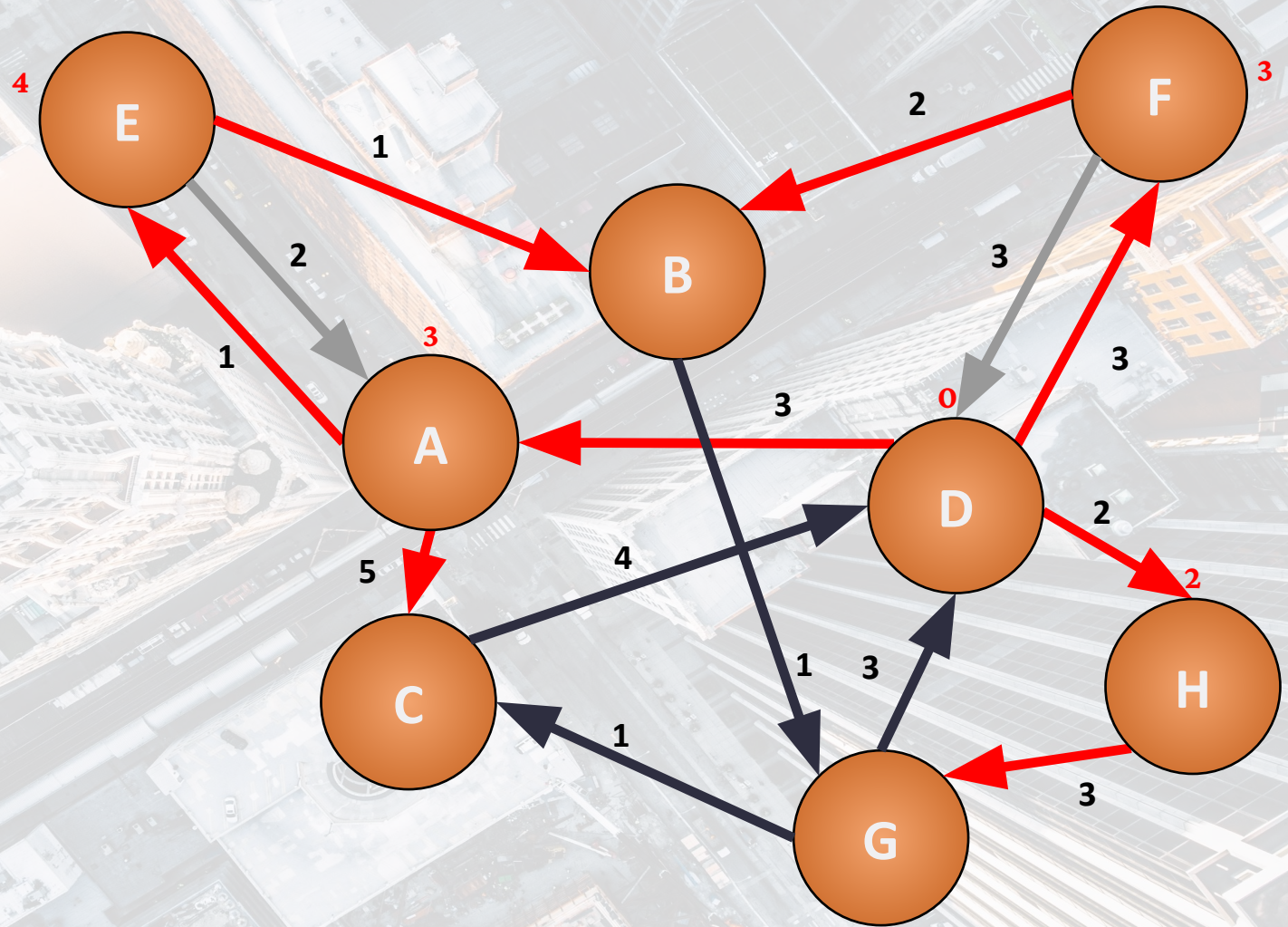
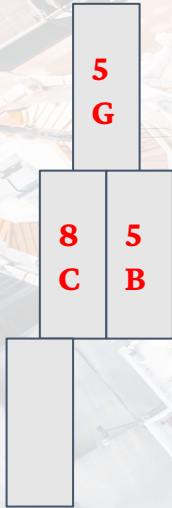
D: 0
H: 2
A: 3
F: 3



D: 0
H: 2
A: 3
F: 3
E: 4



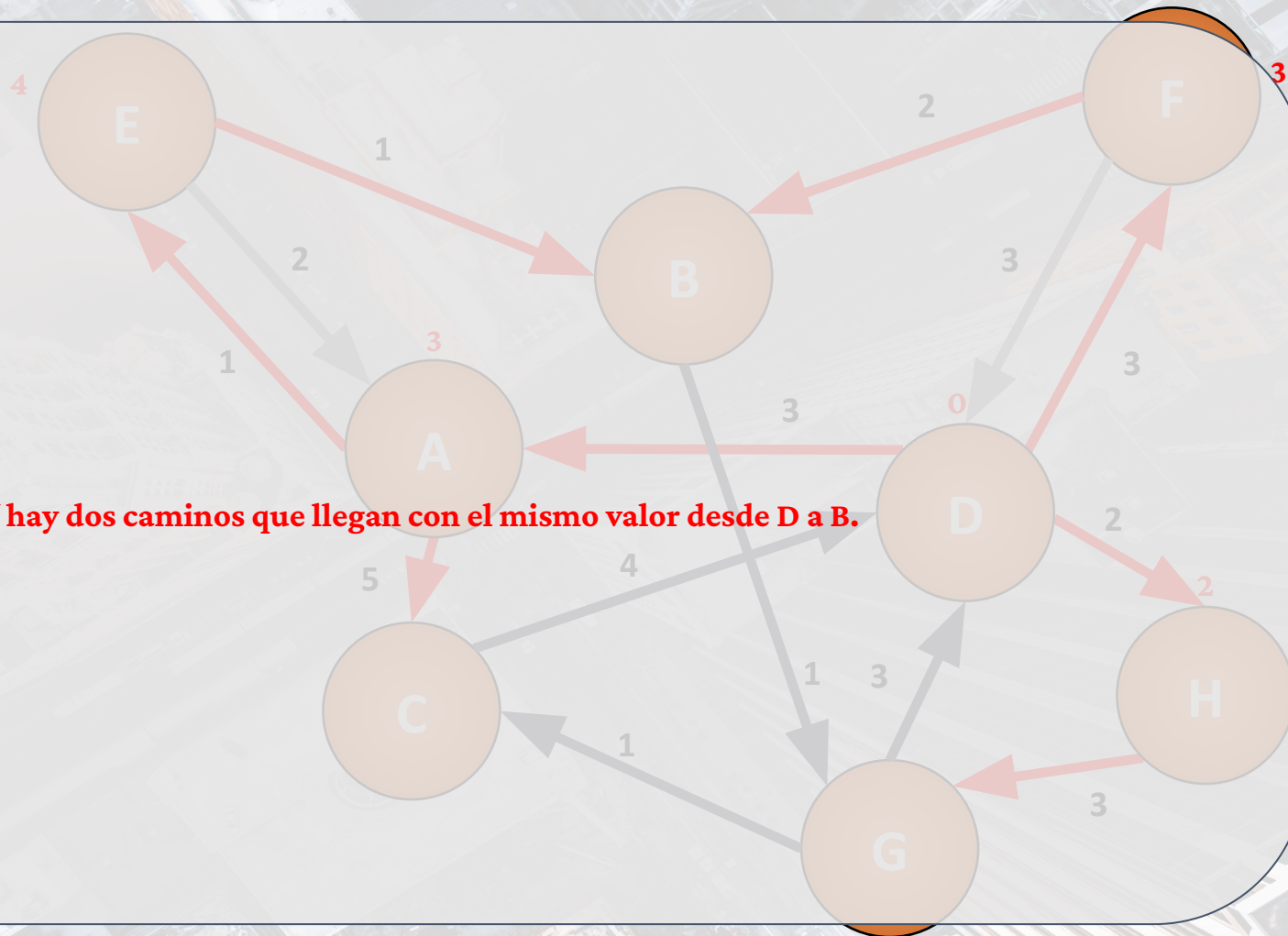
D: 0
H: 2
A: 3
F: 3
E: 4



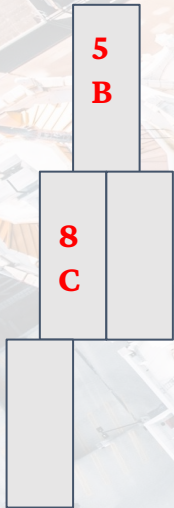
D: 0
H: 2
A: 3
F: 3
E: 4

!!!:

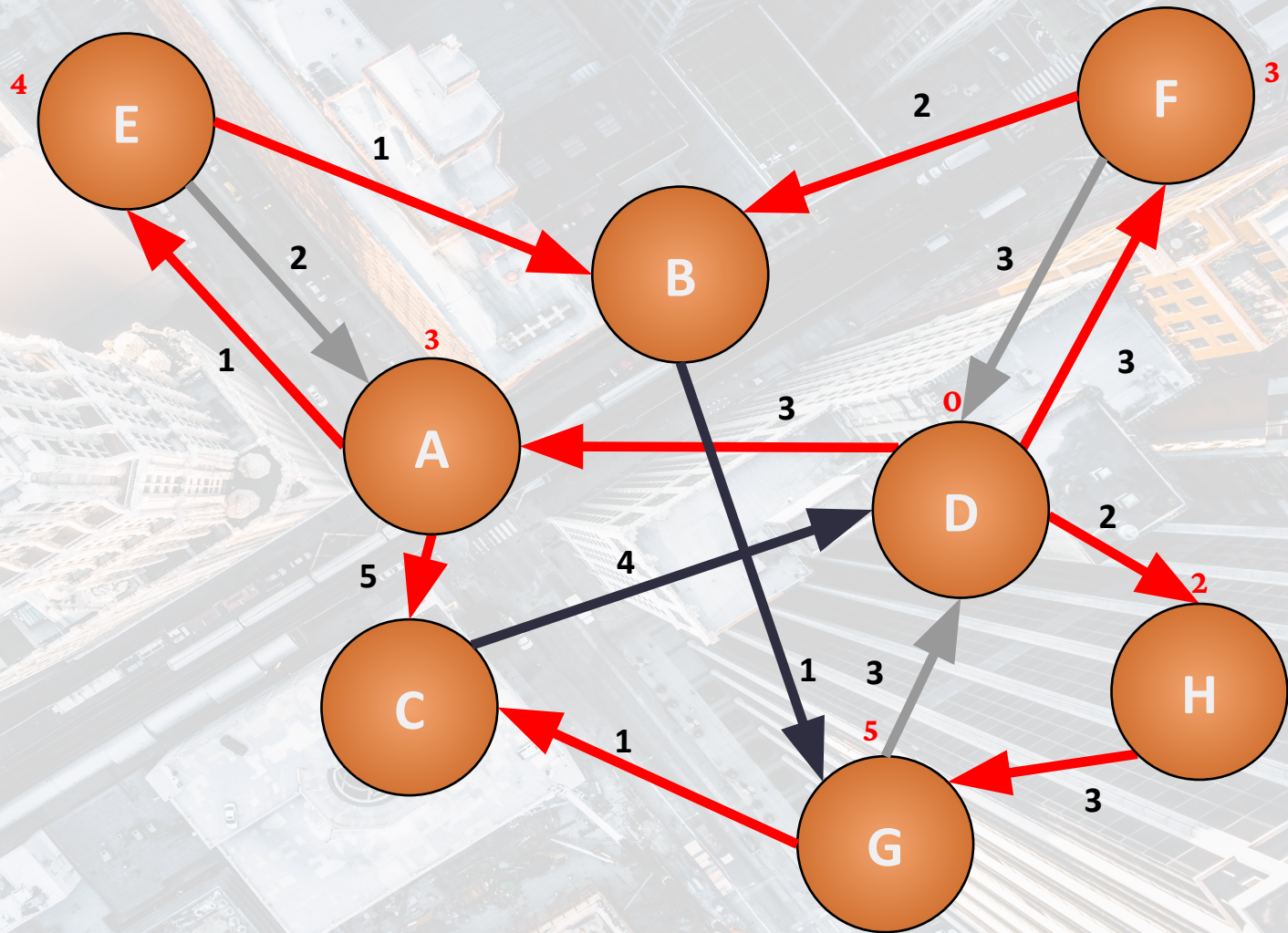
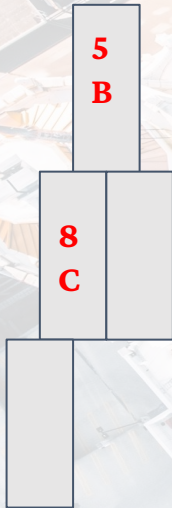
Notar que aquí hay dos caminos que llegan con el mismo valor desde D a B.



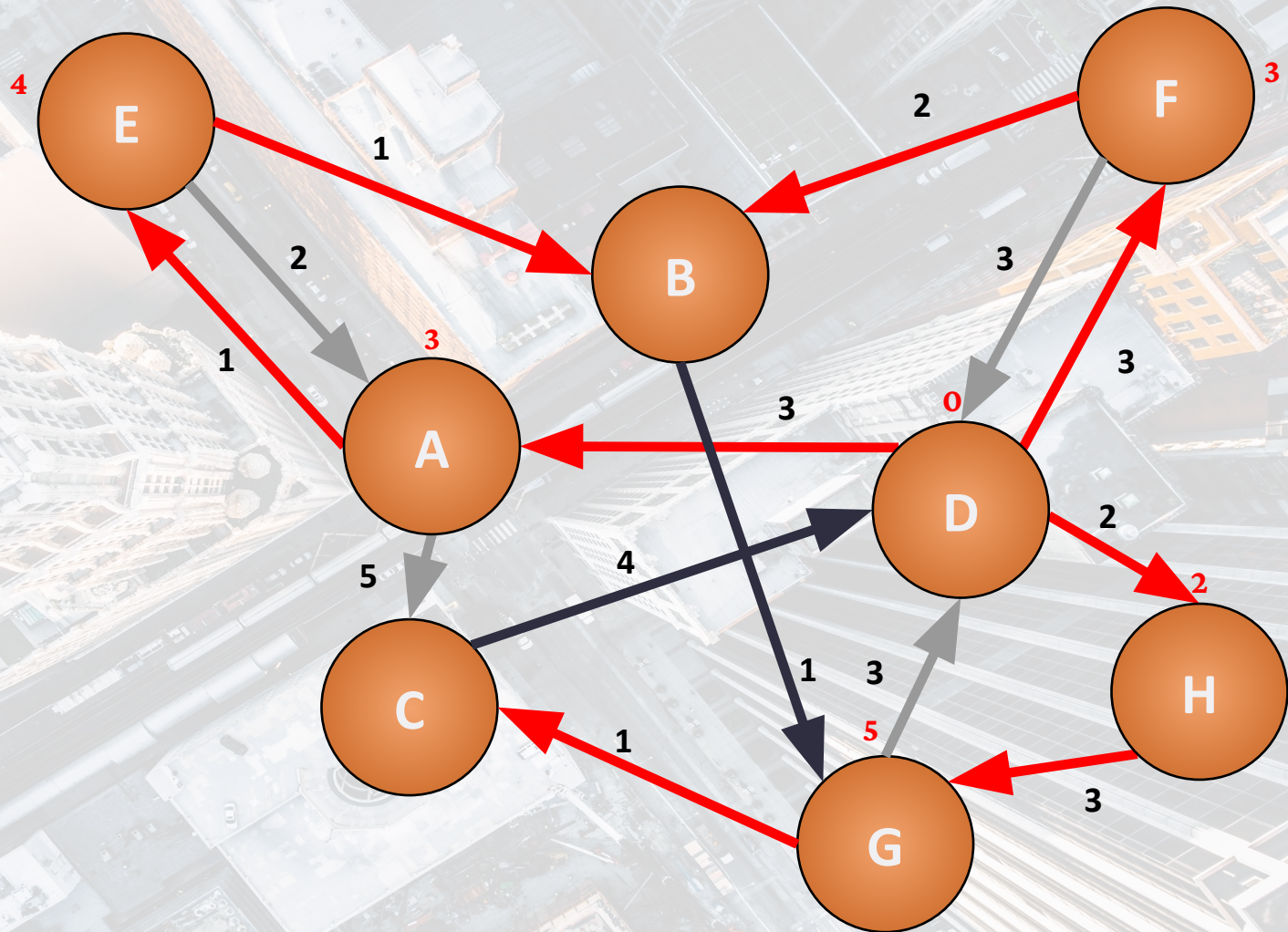
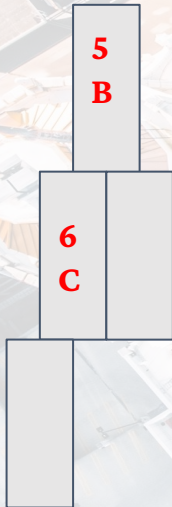
D: 0
H: 2
A: 3
F: 3
E: 4
G: 5



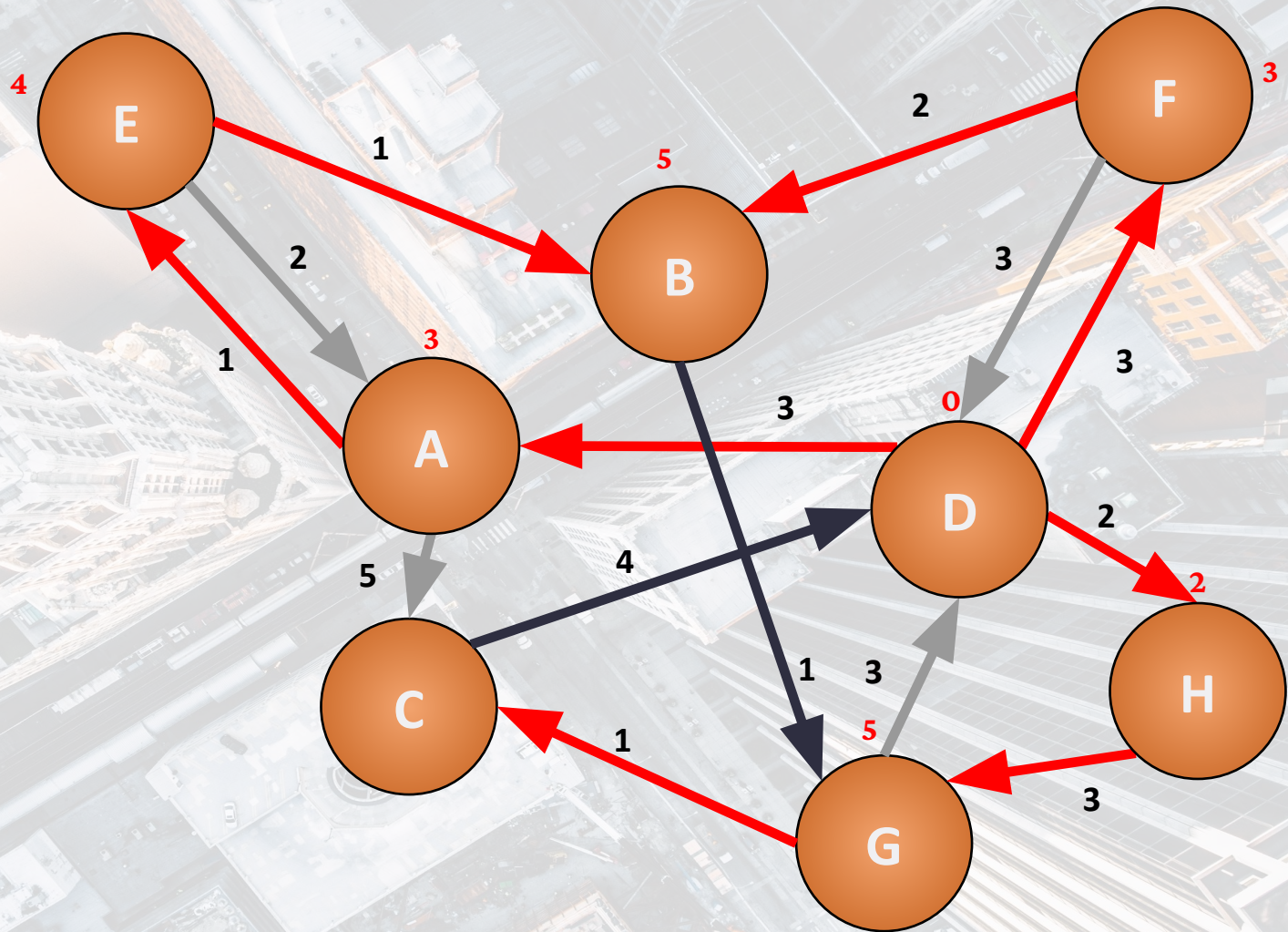
D: 0
H: 2
A: 3
F: 3
E: 4
G: 5



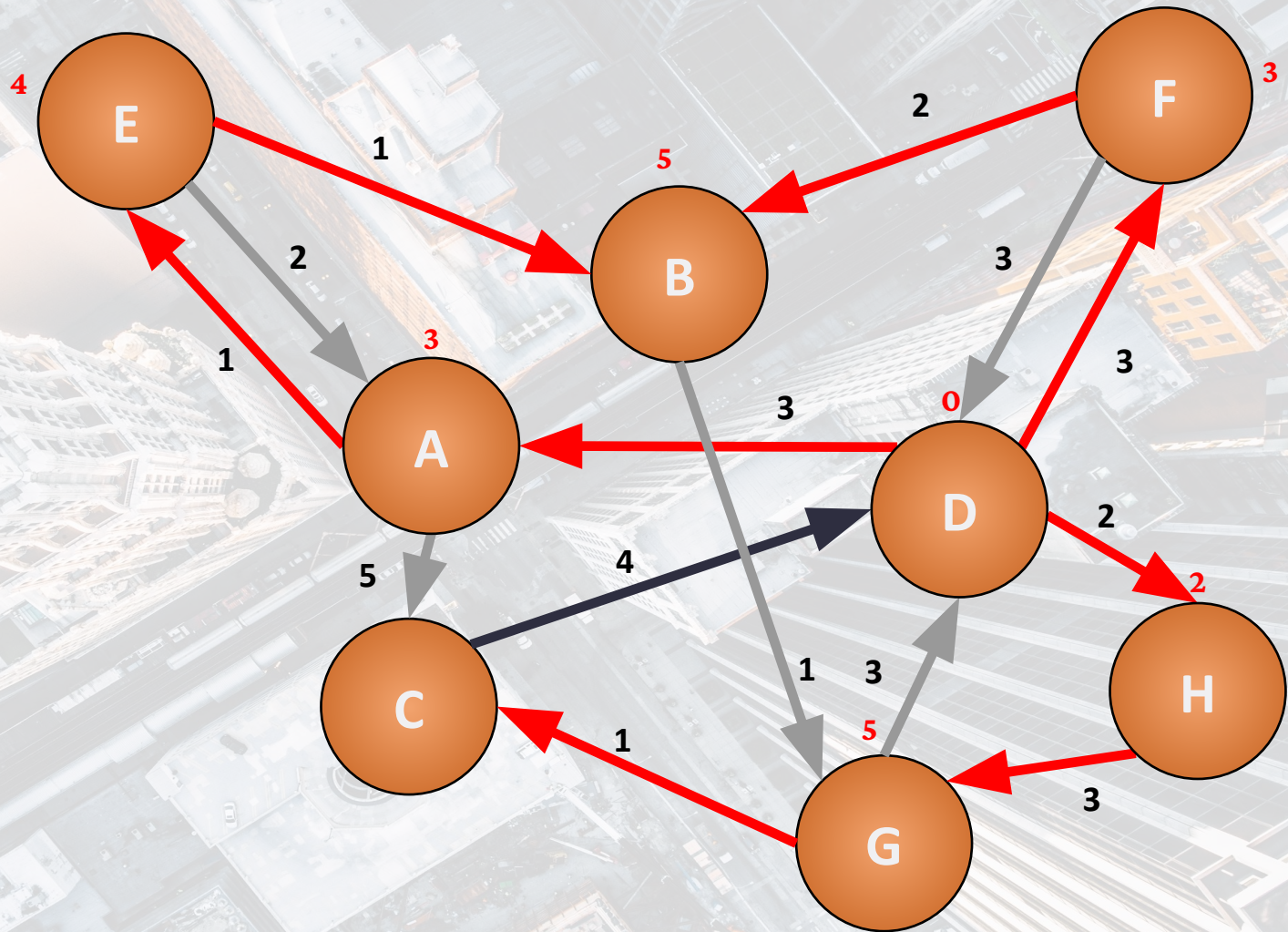
D: 0
H: 2
A: 3
F: 3
E: 4
G: 5



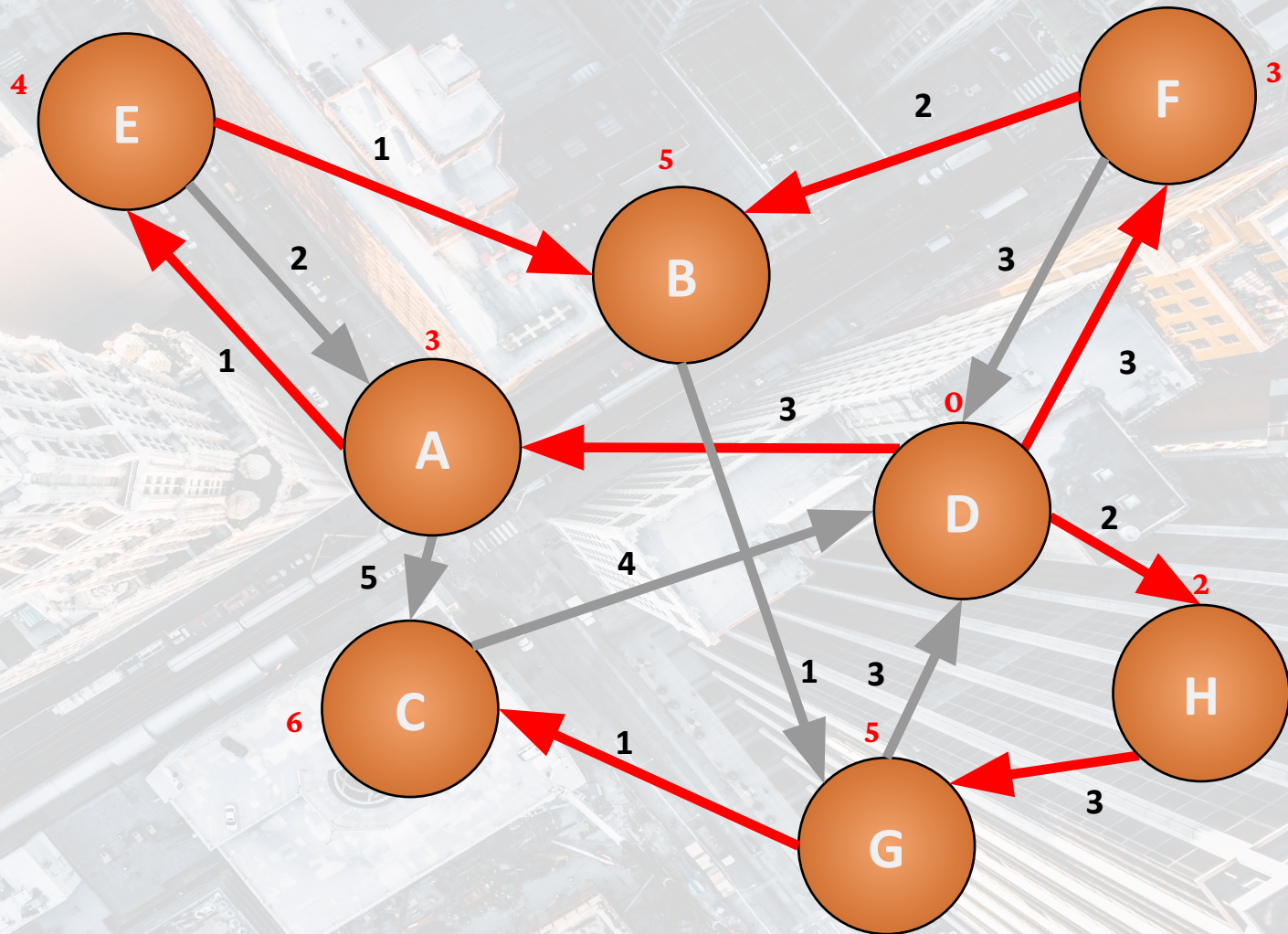
D: 0
H: 2
A: 3
F: 3
E: 4
G: 5
B: 5



D: 0
H: 2
A: 3
F: 3
E: 4
G: 5
B: 5



D: 0
H: 2
A: 3
F: 3
E: 4
G: 5
B: 5
C: 6



D: 0
H: 2
A: 3
F: 3
E: 4
G: 5
B: 5
C: 6

