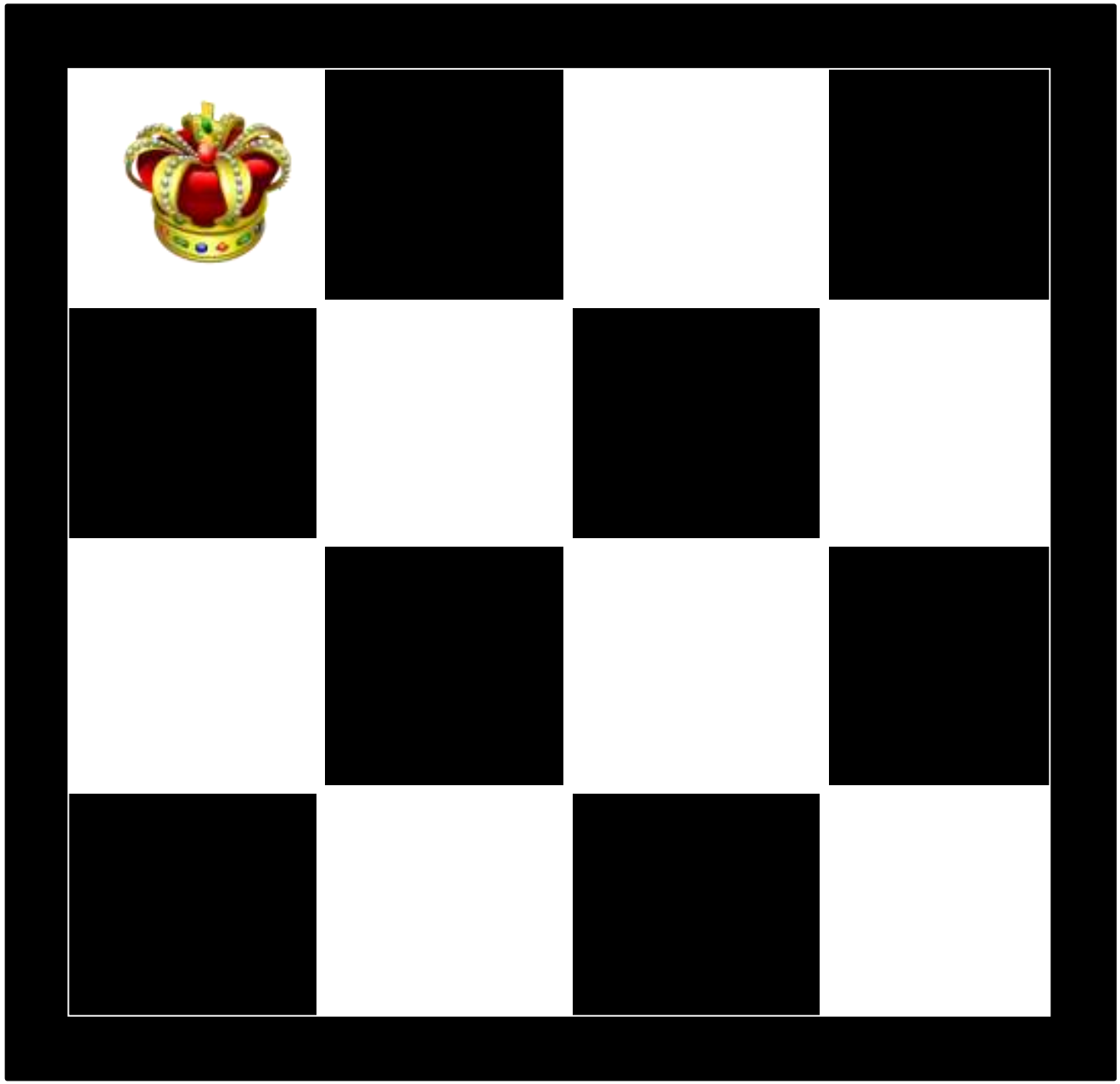

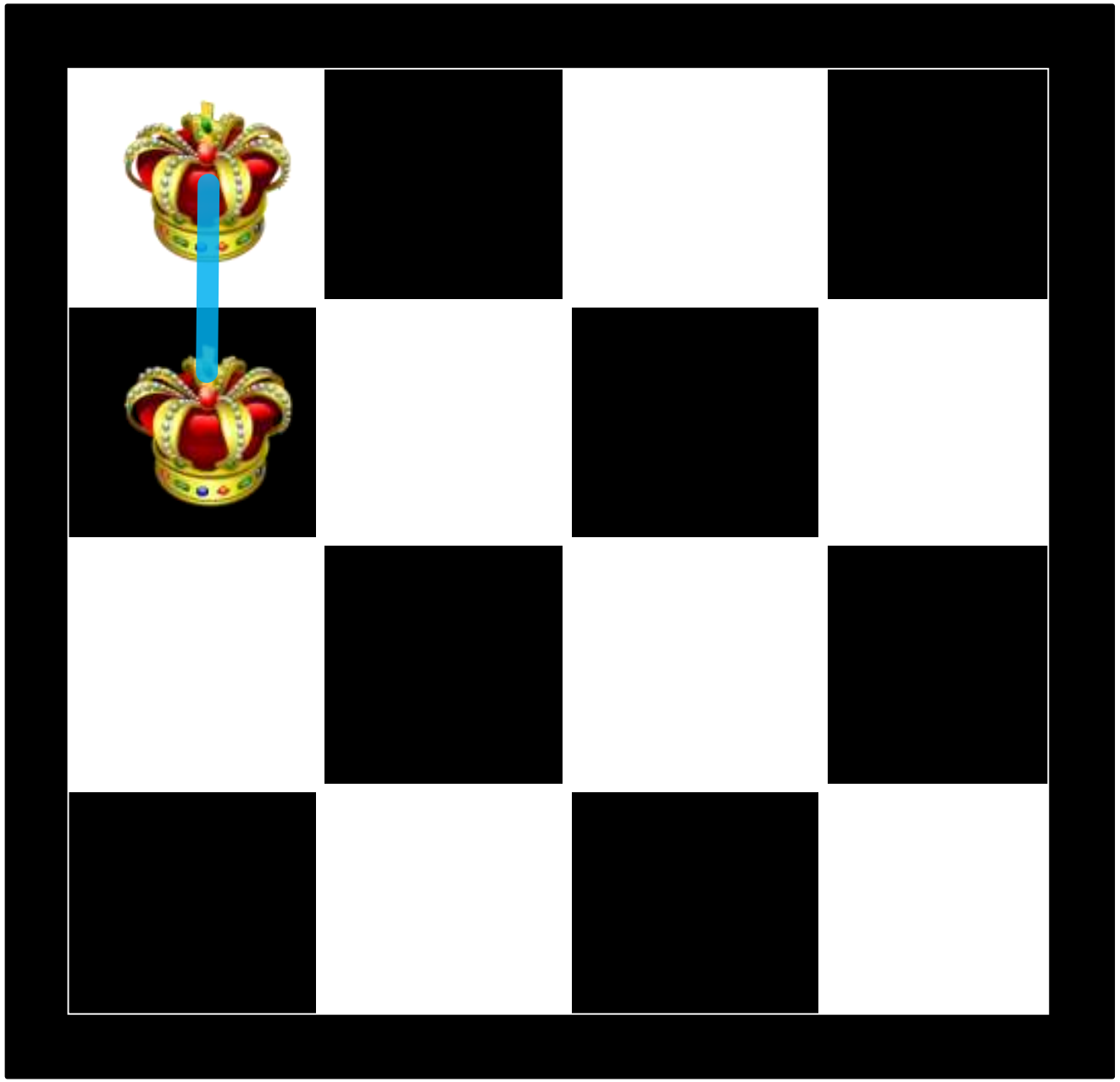

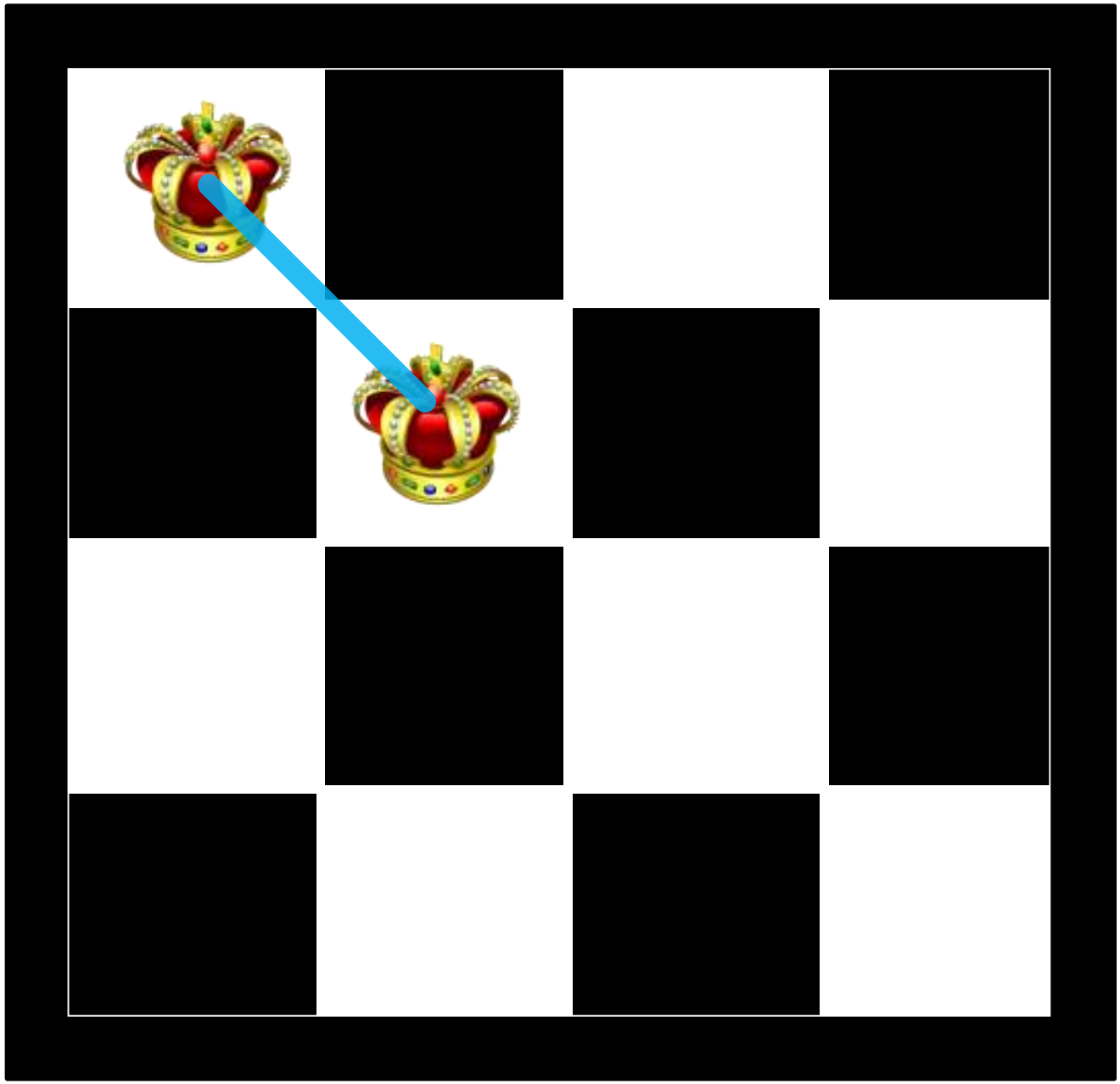

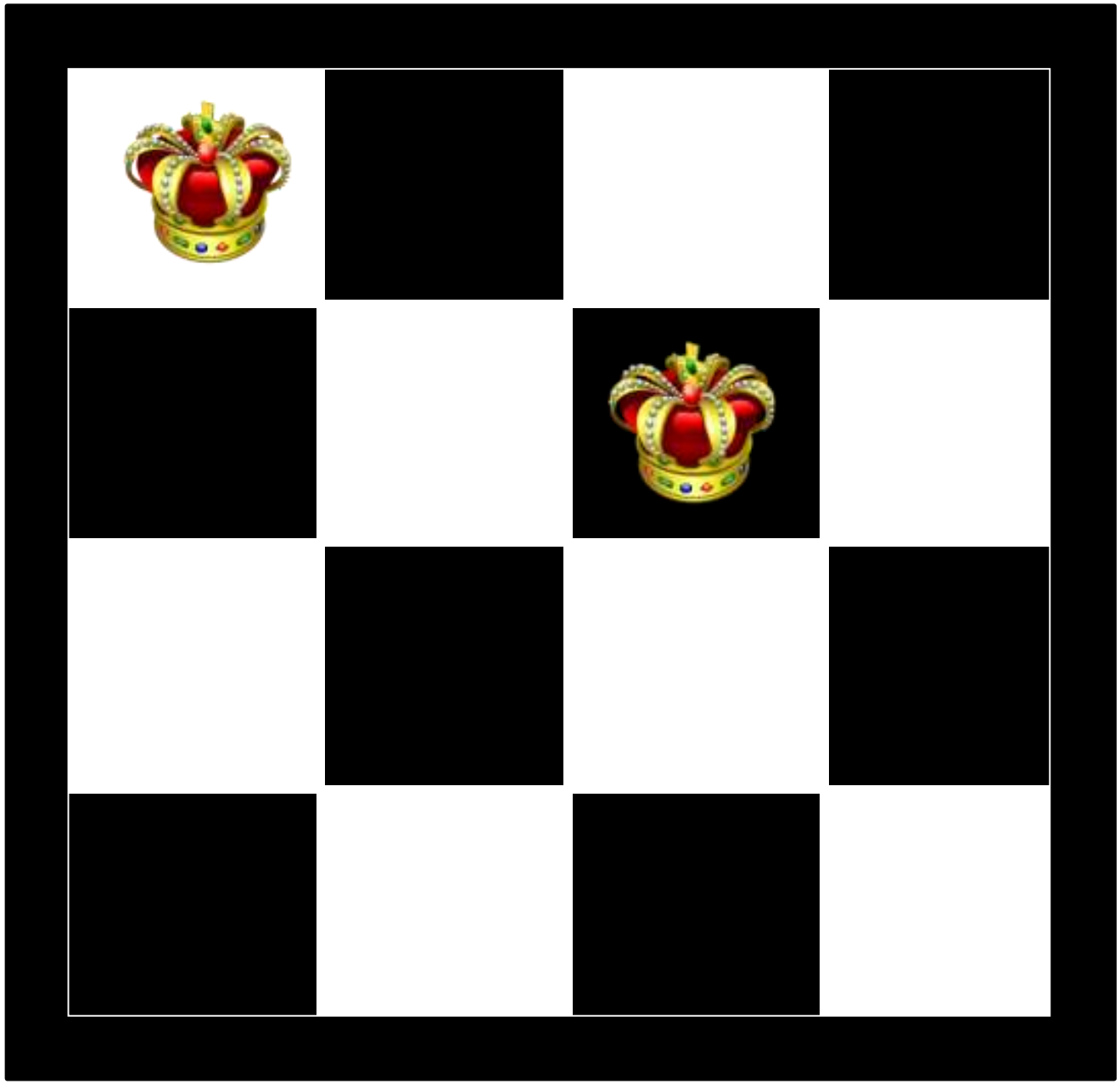

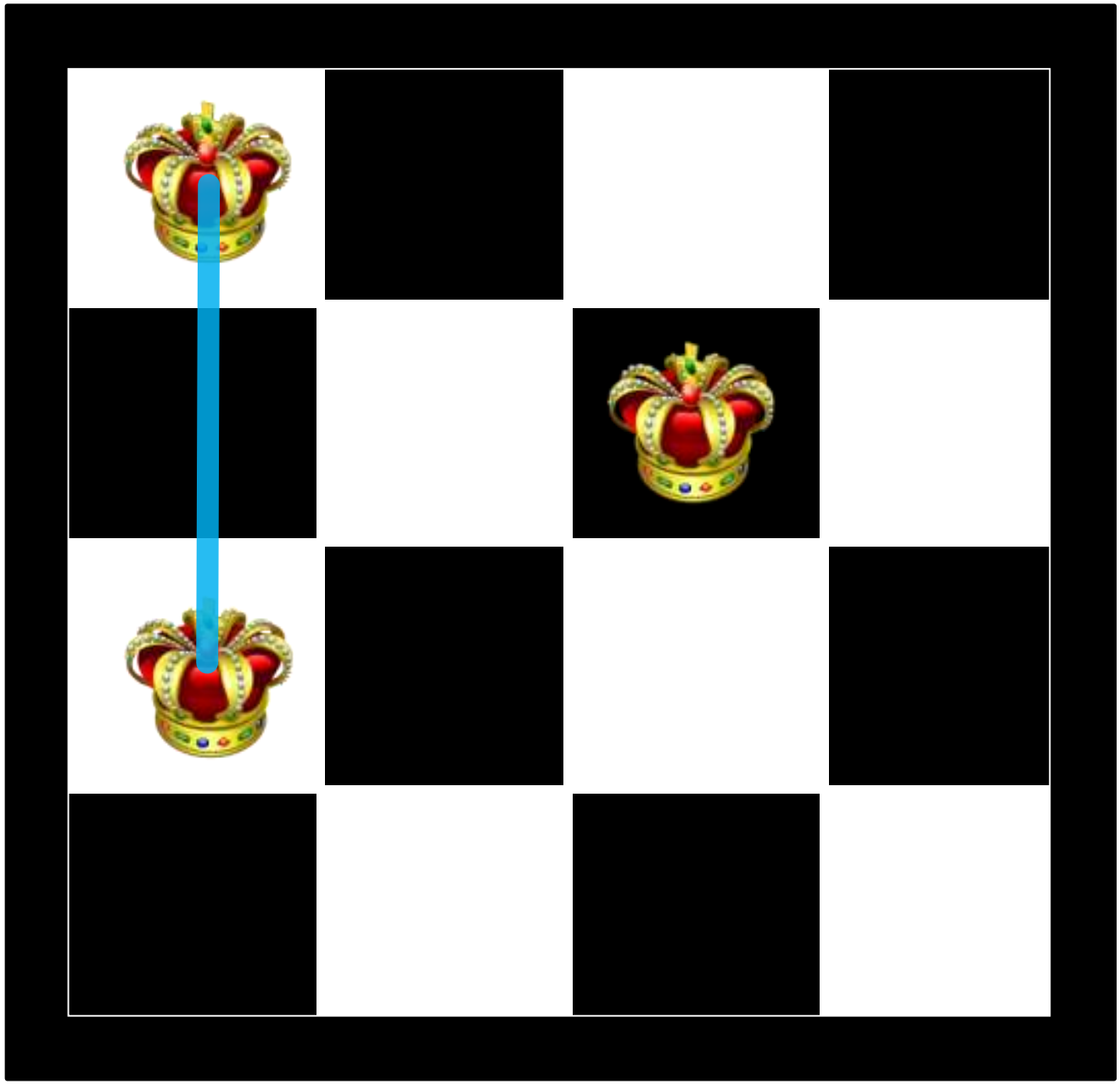

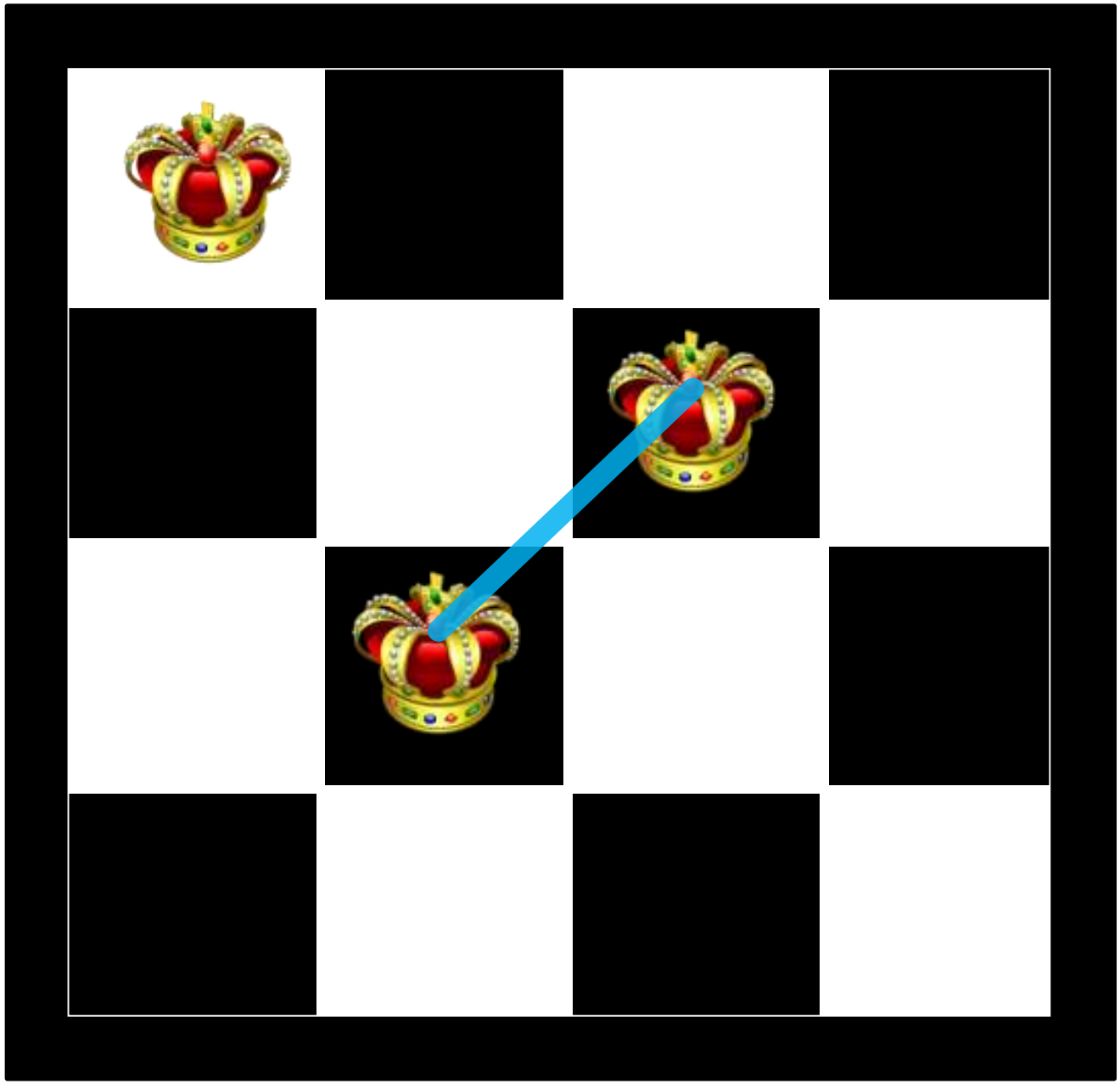

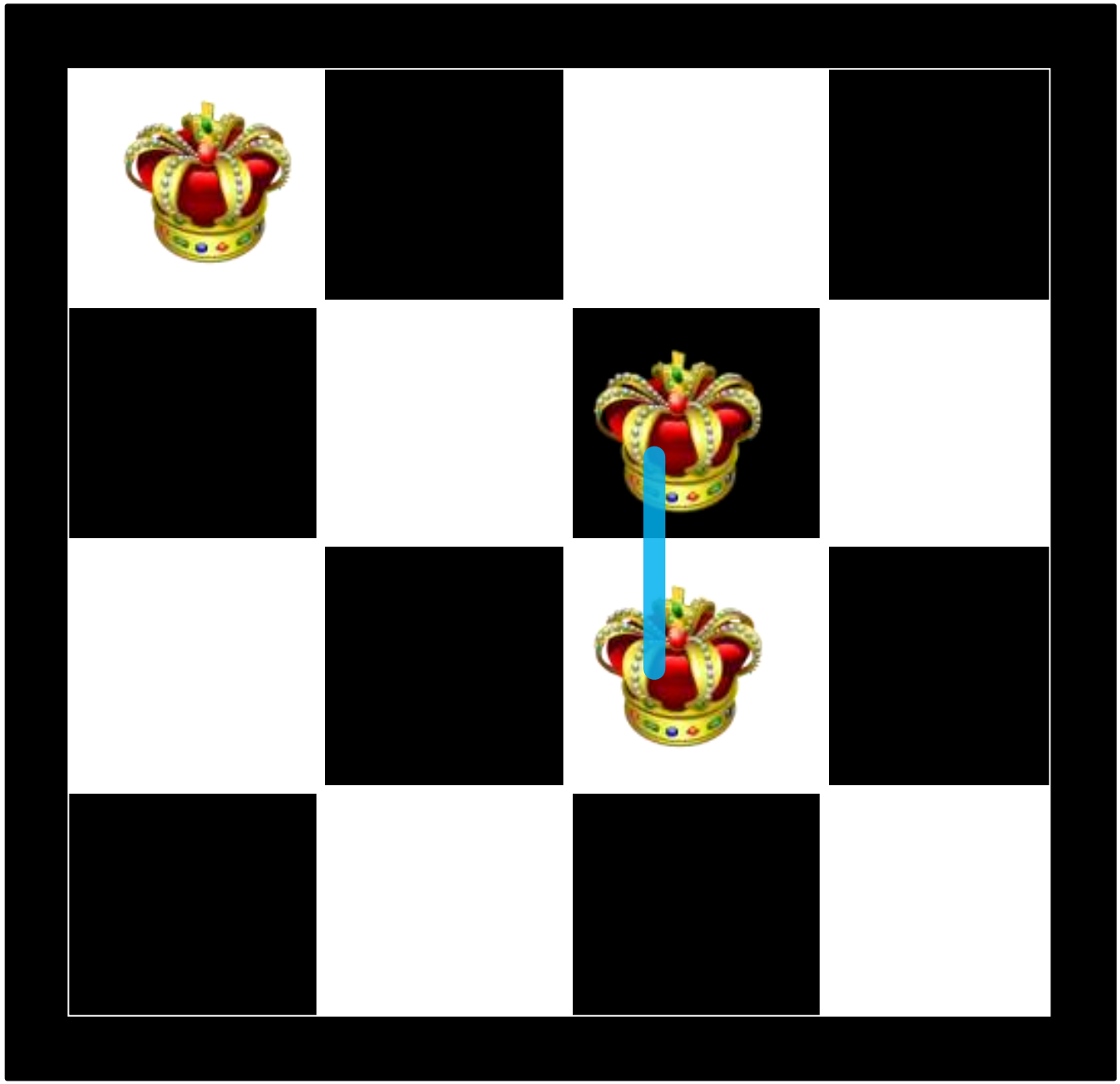

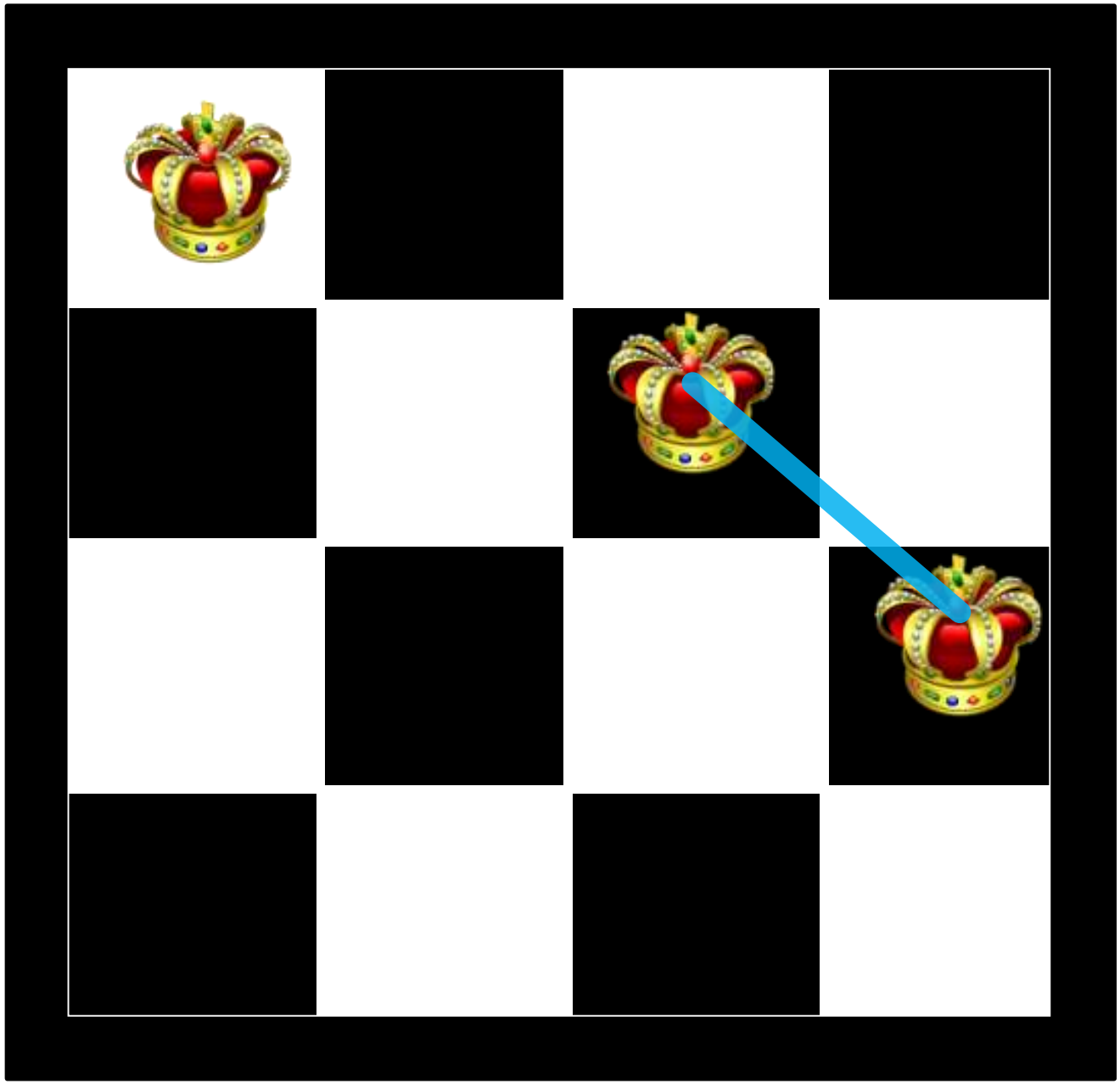

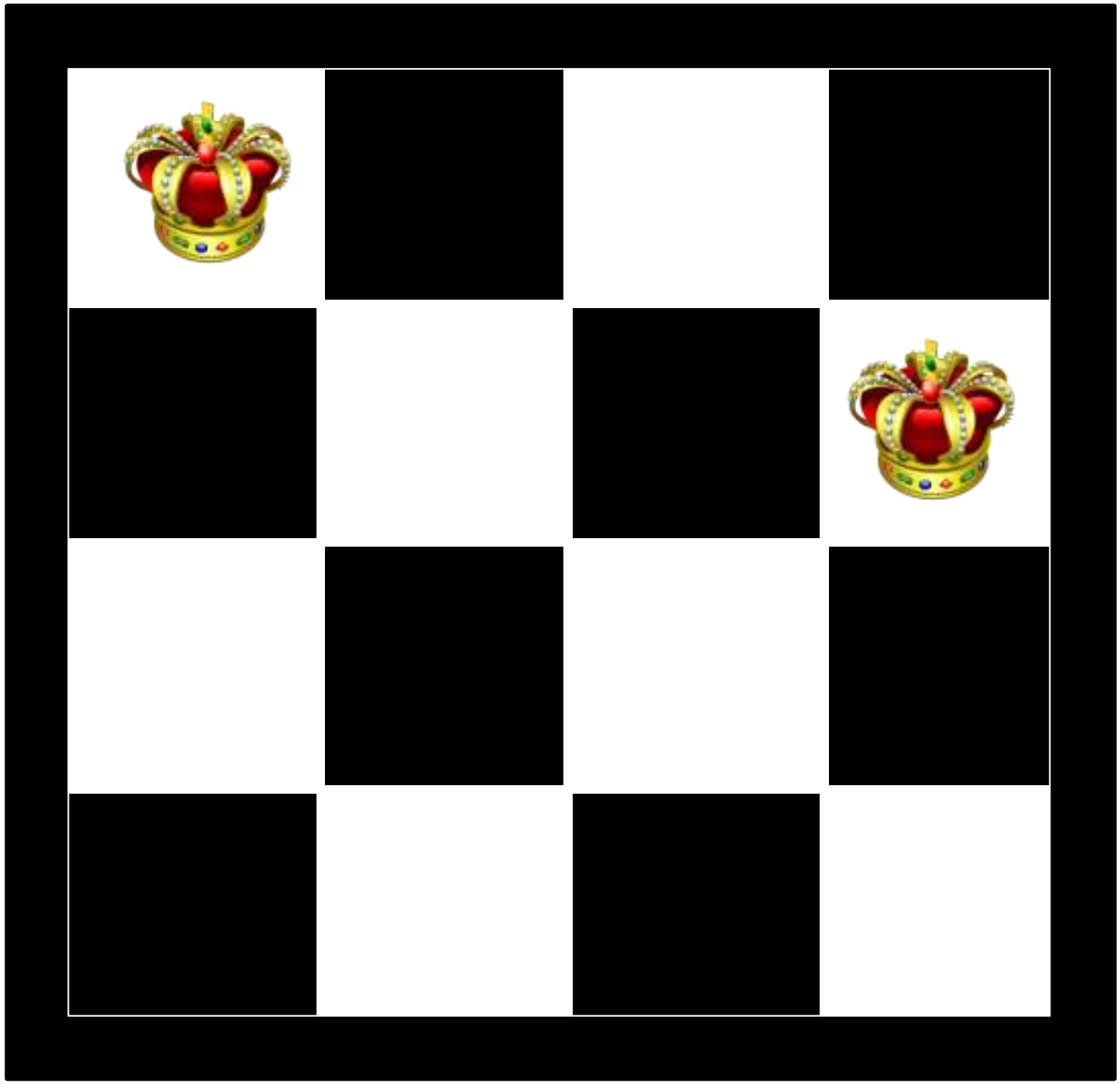

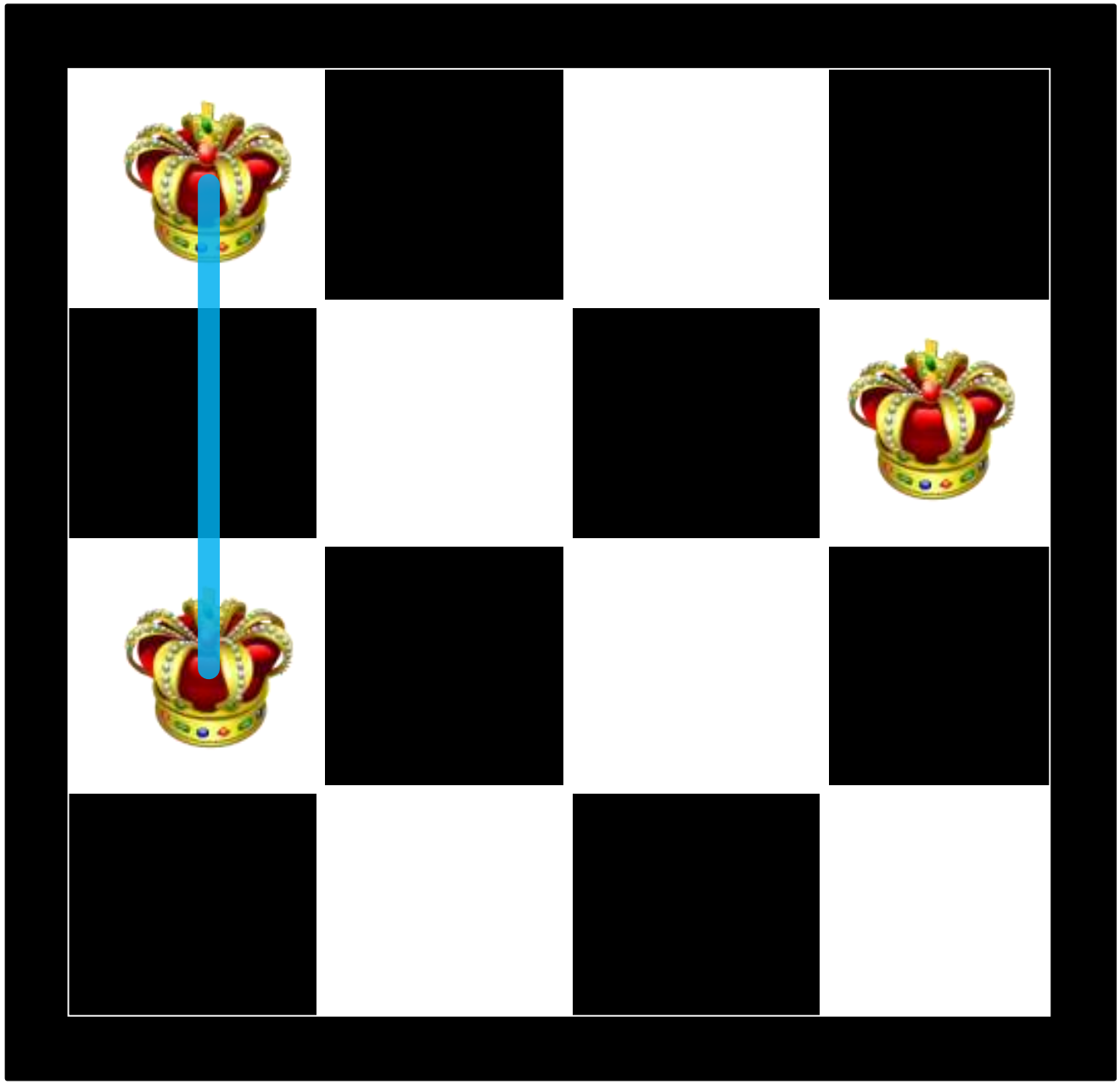

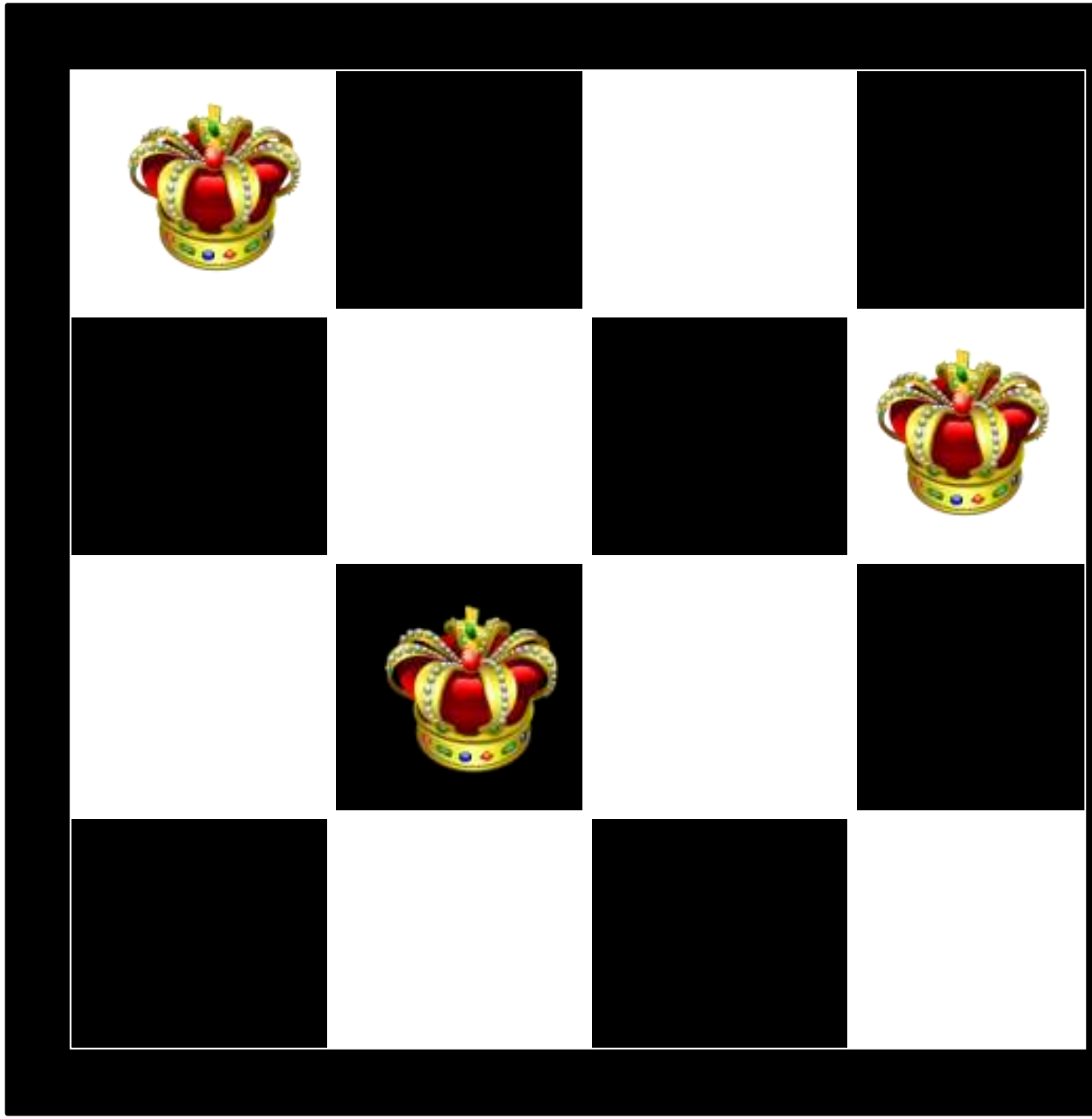

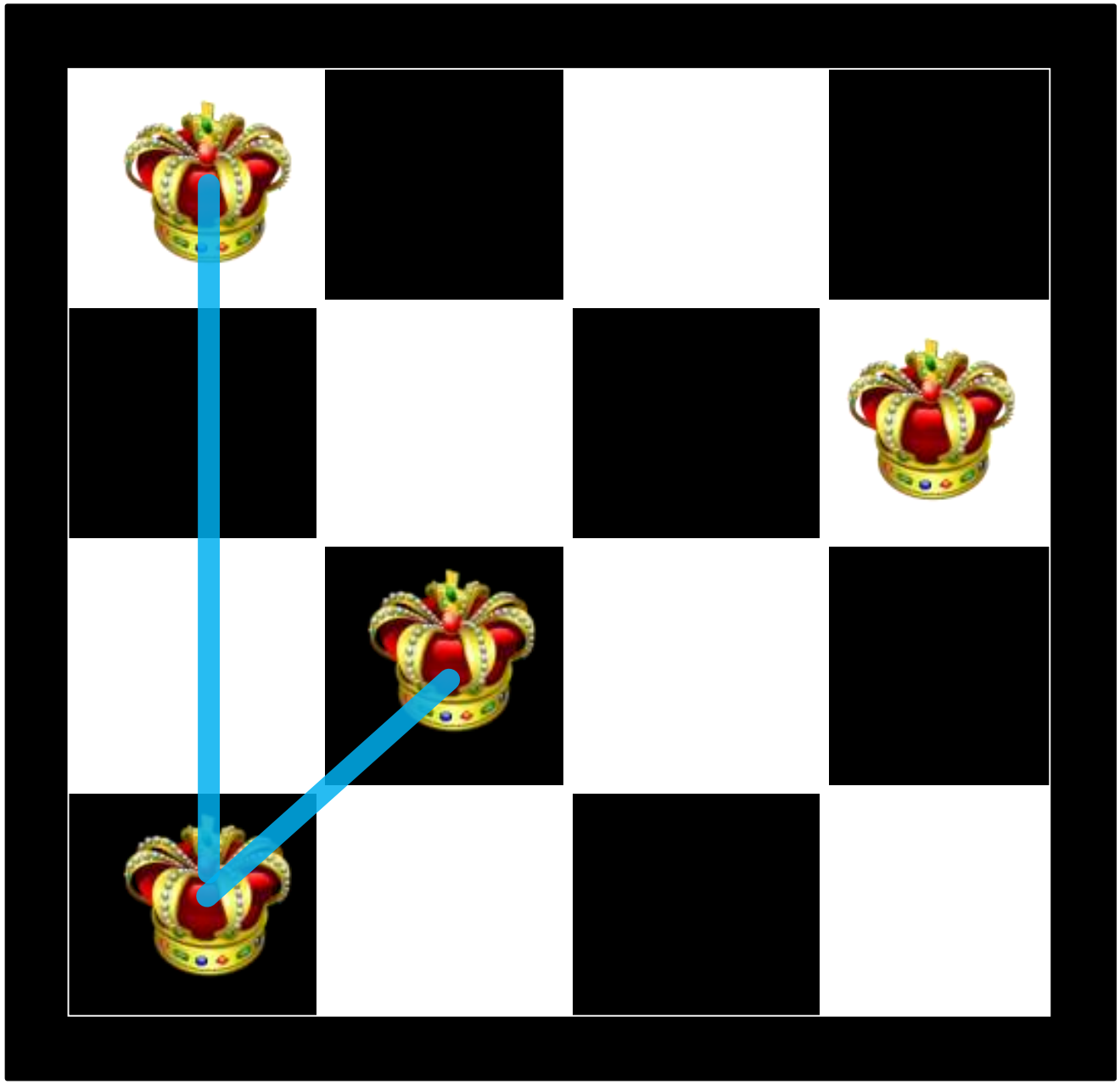

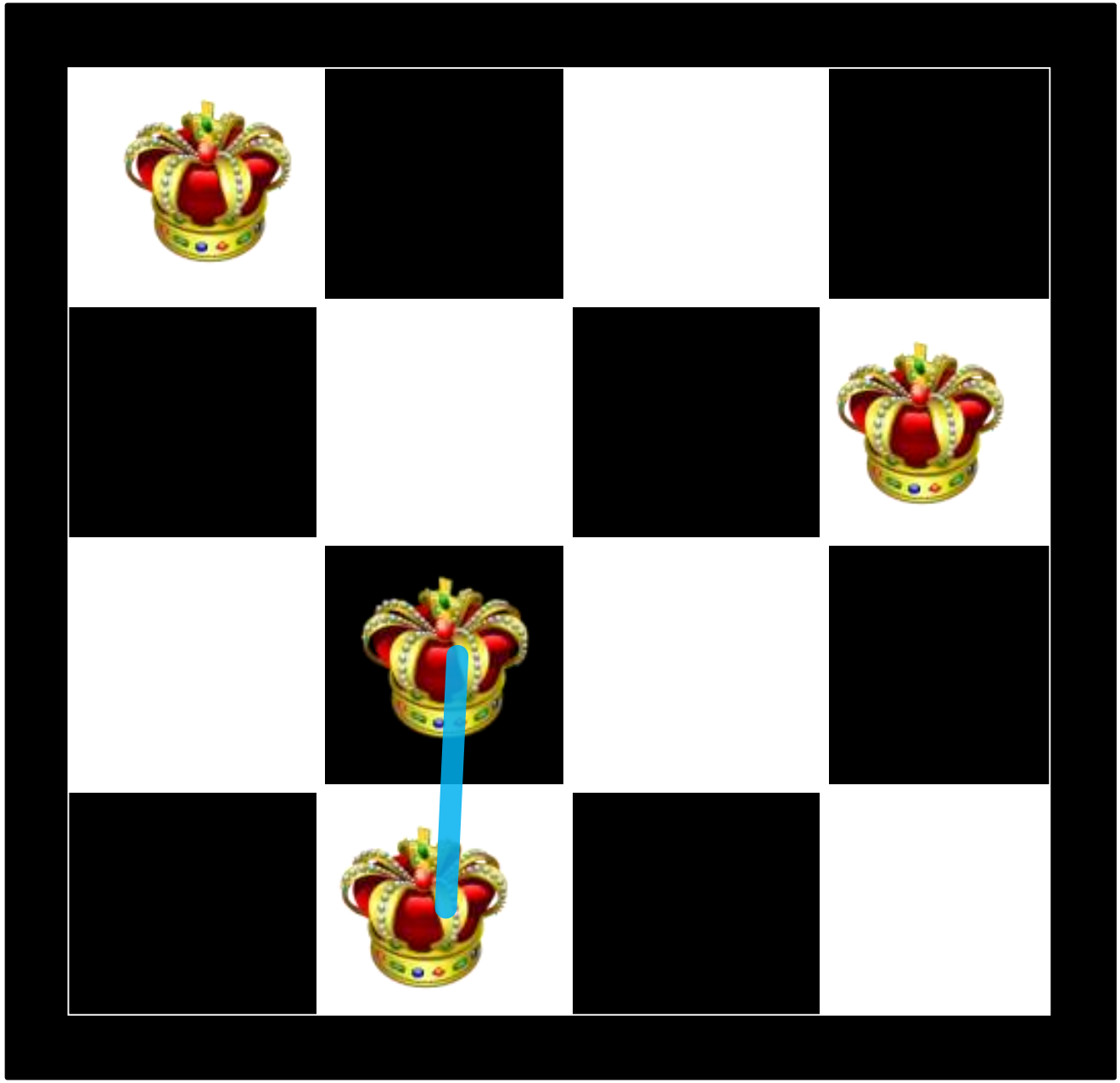

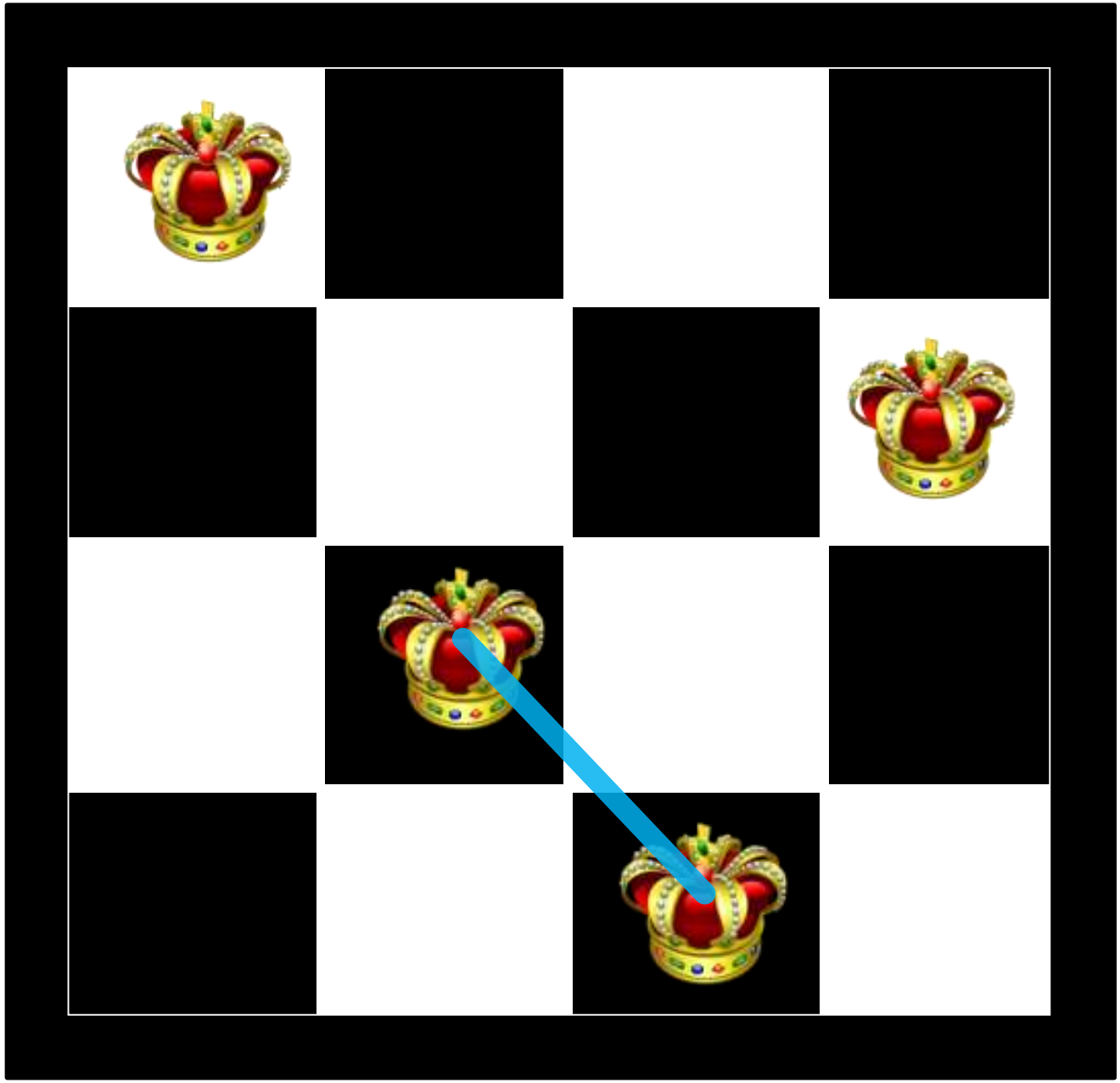

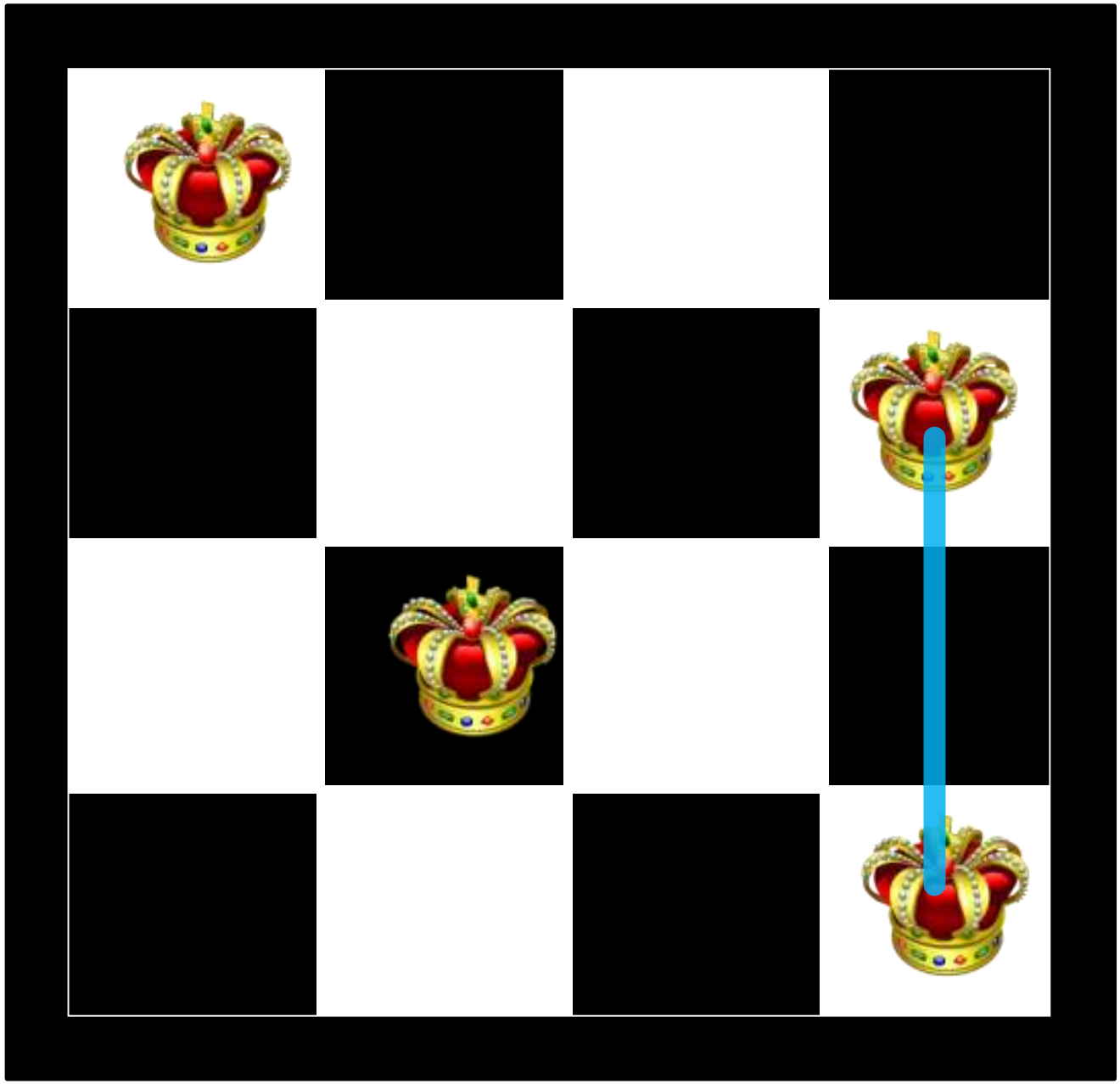

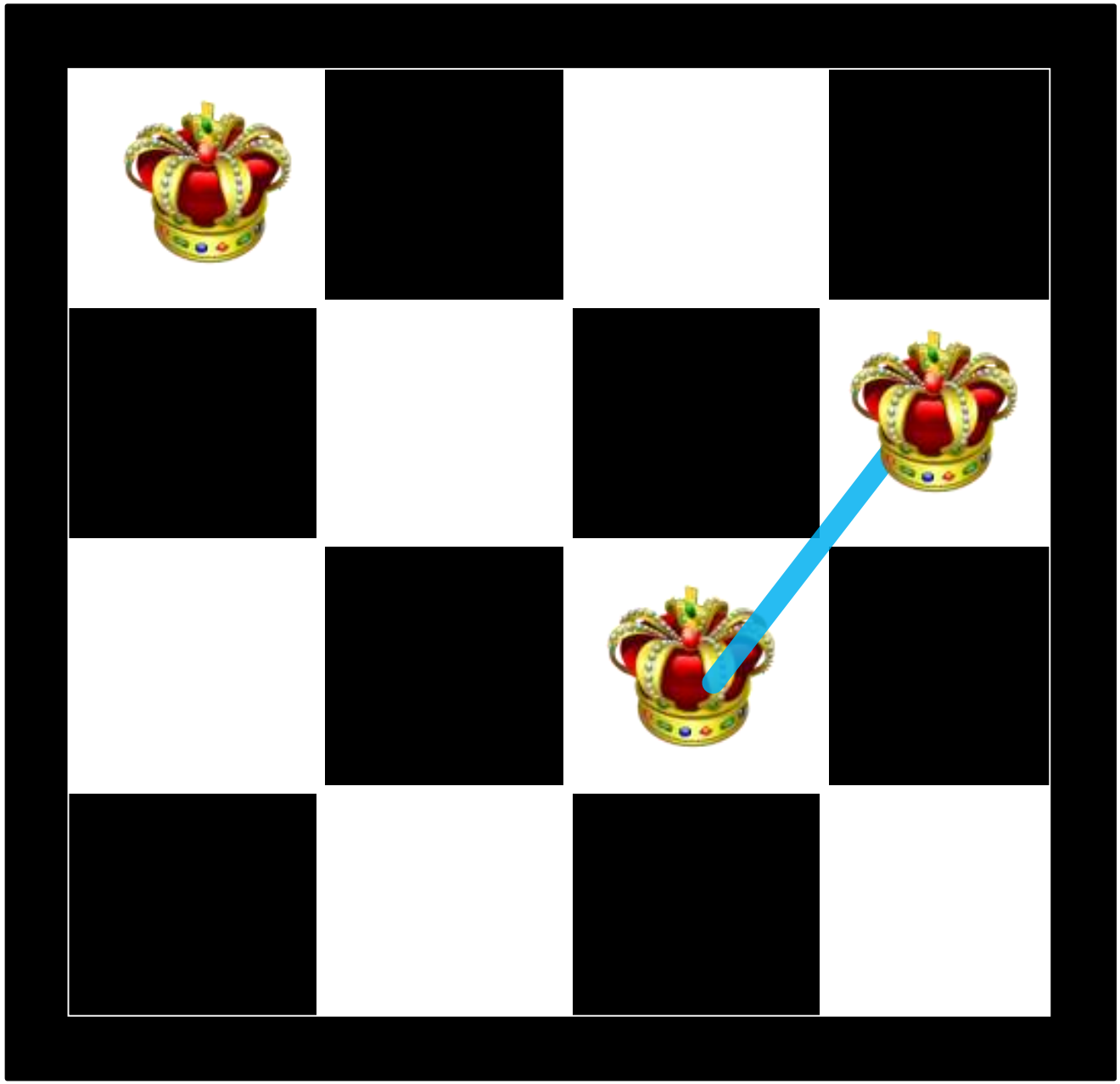

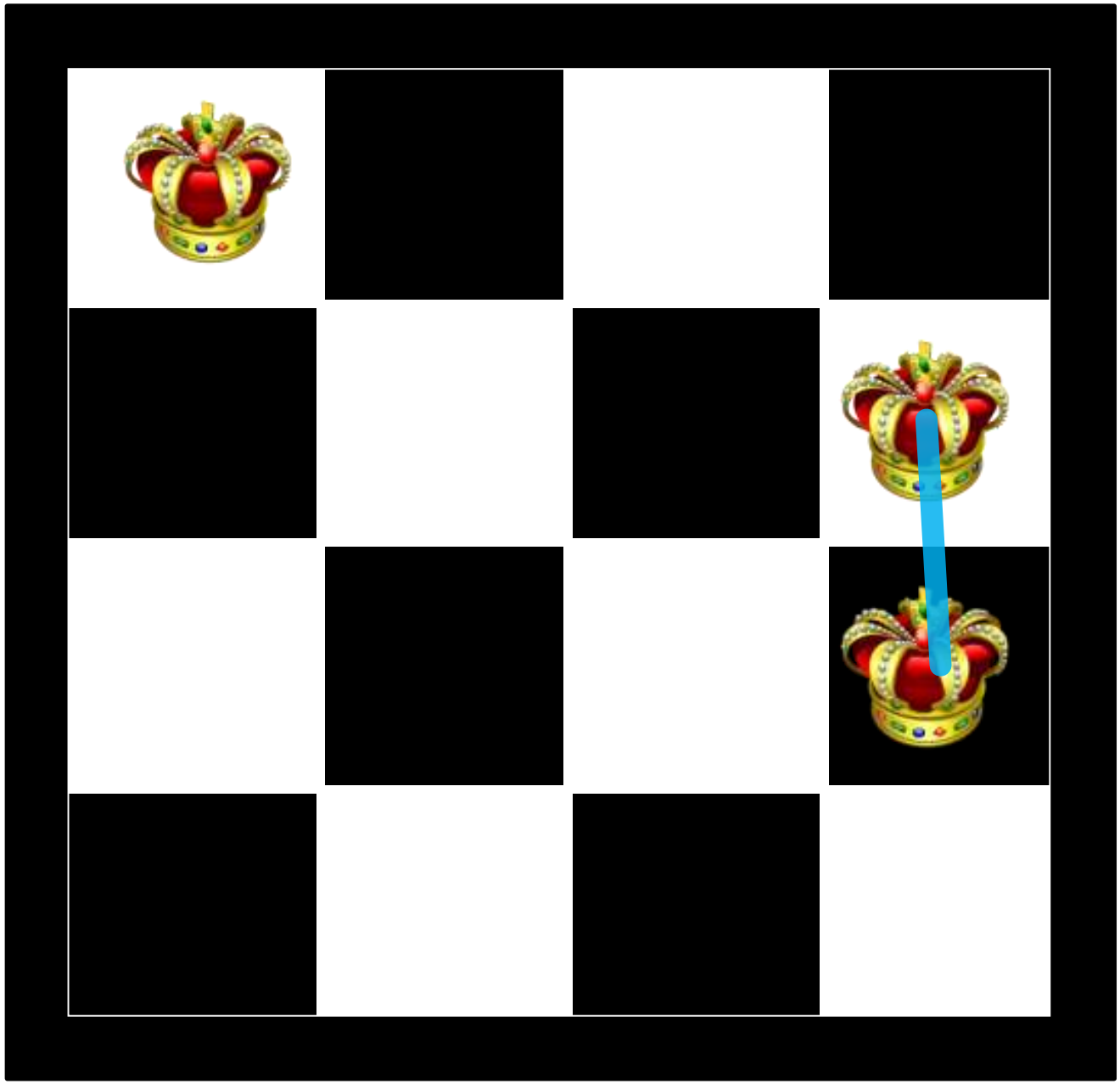

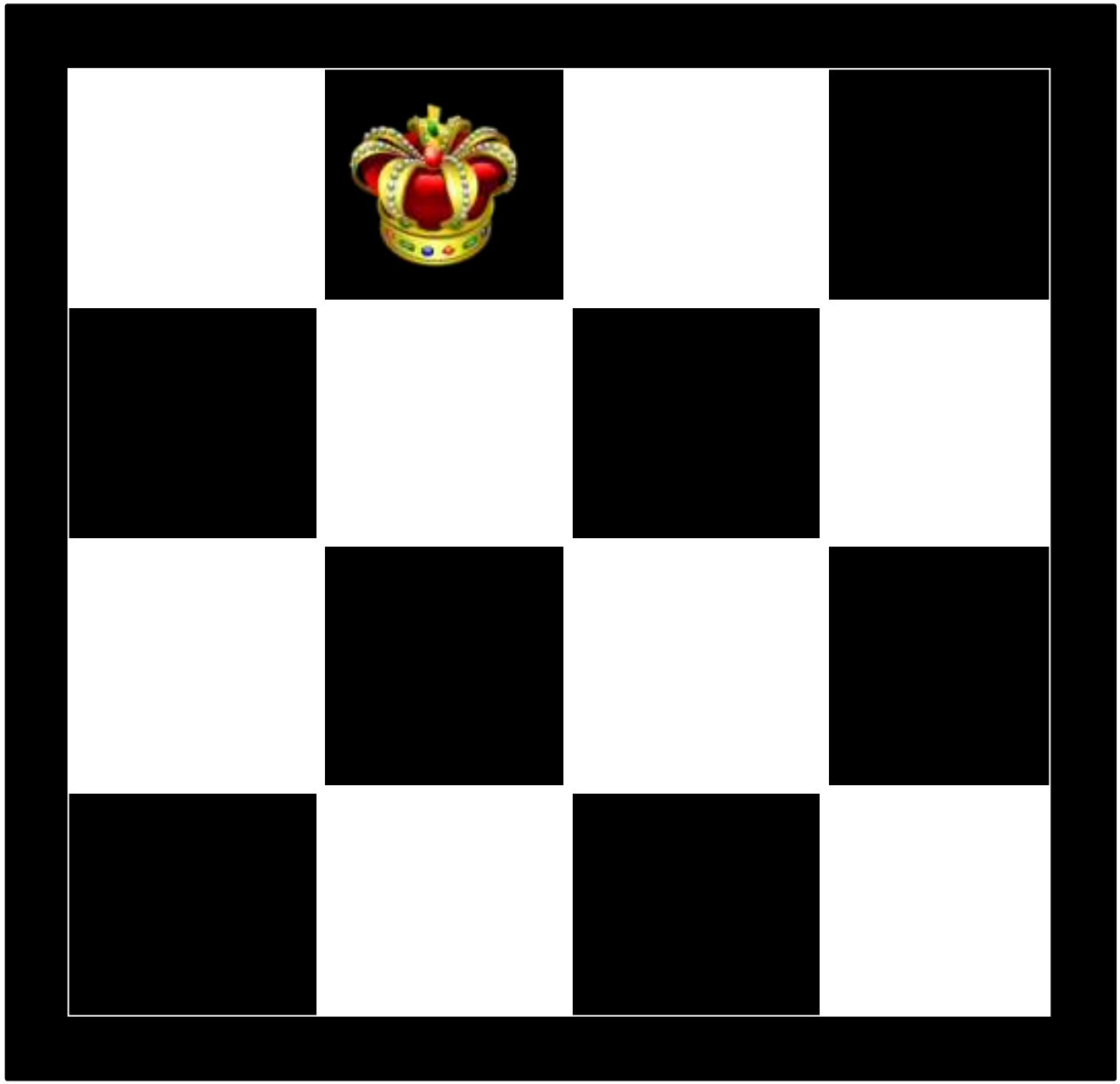

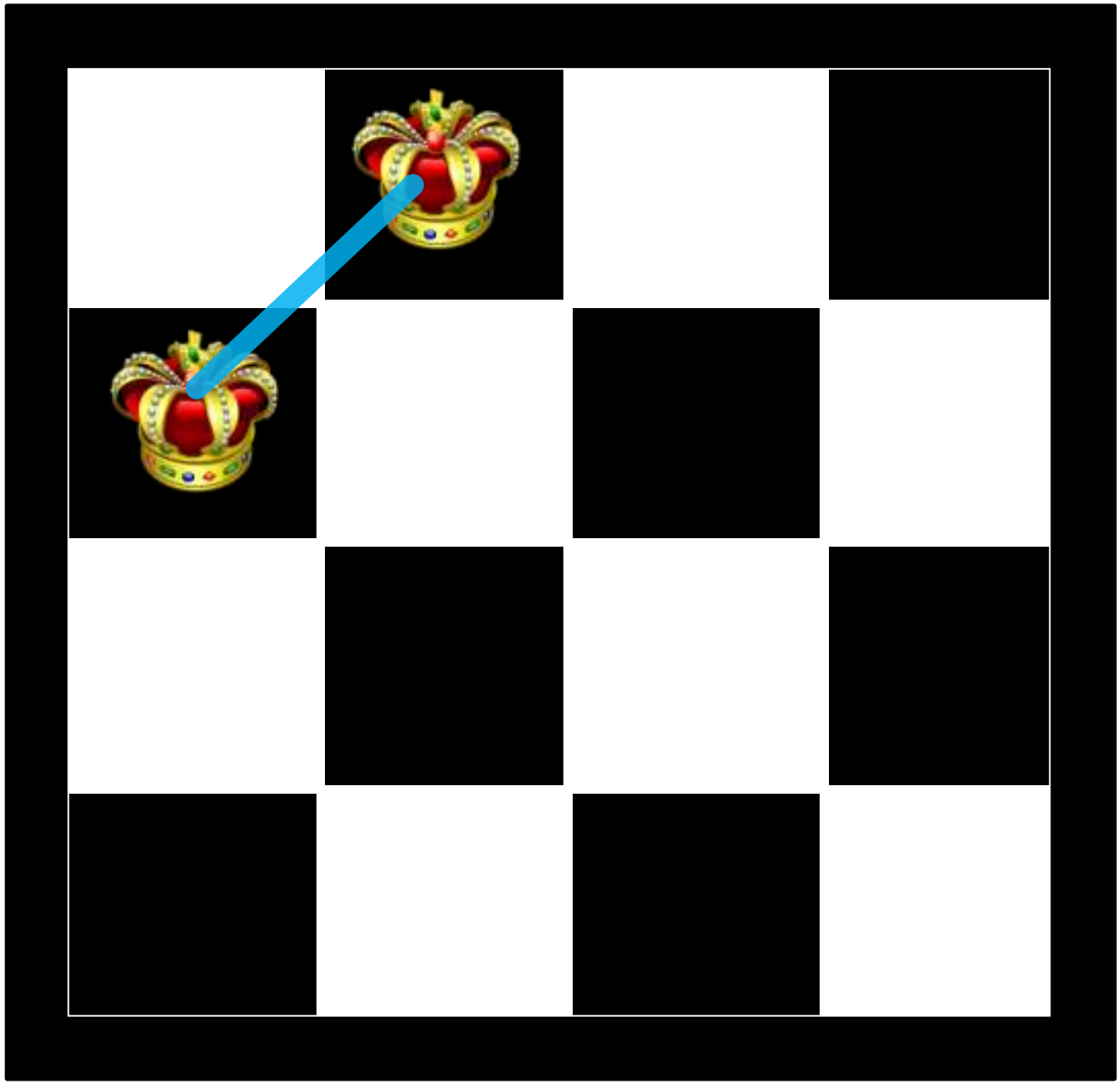

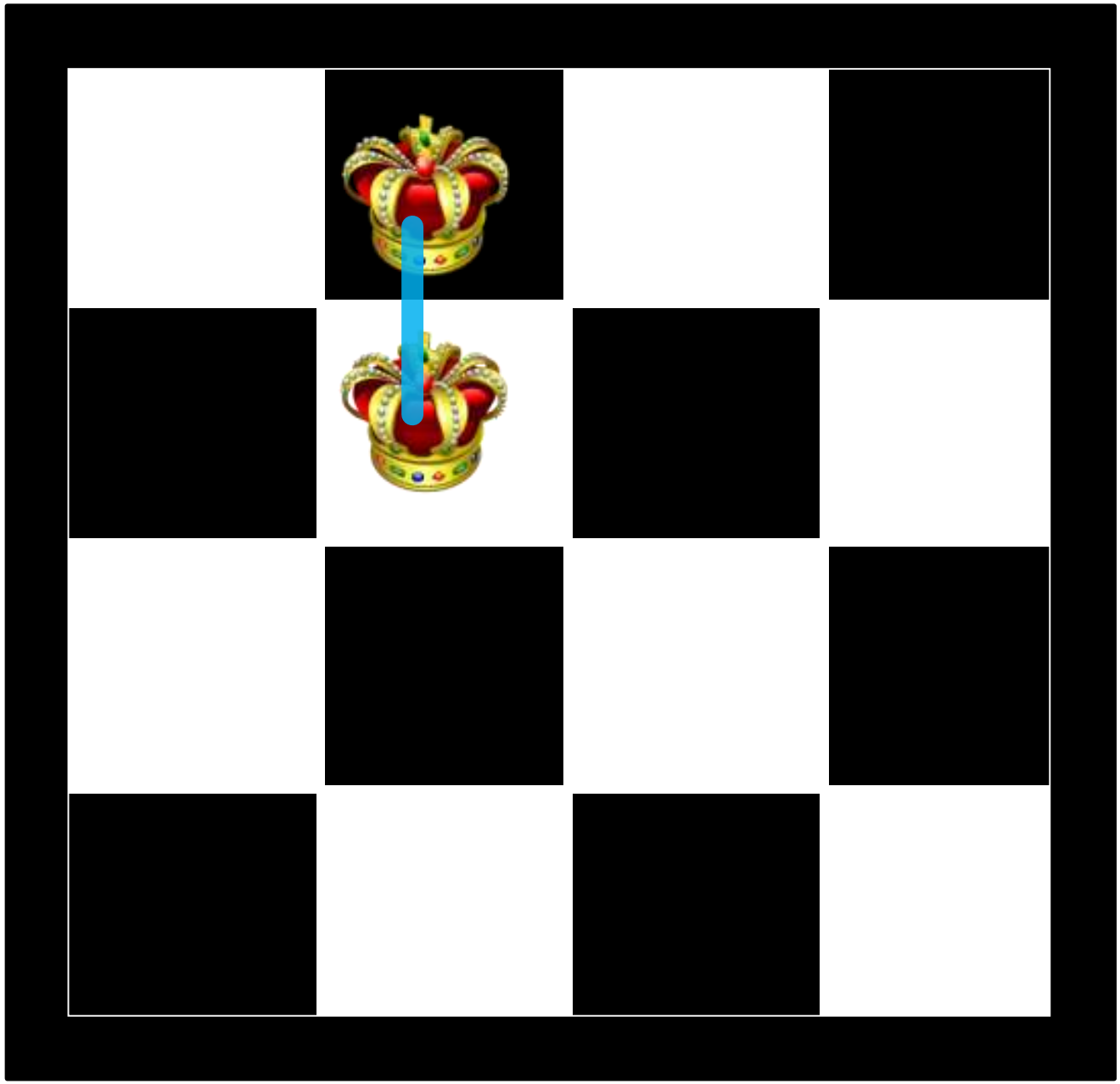

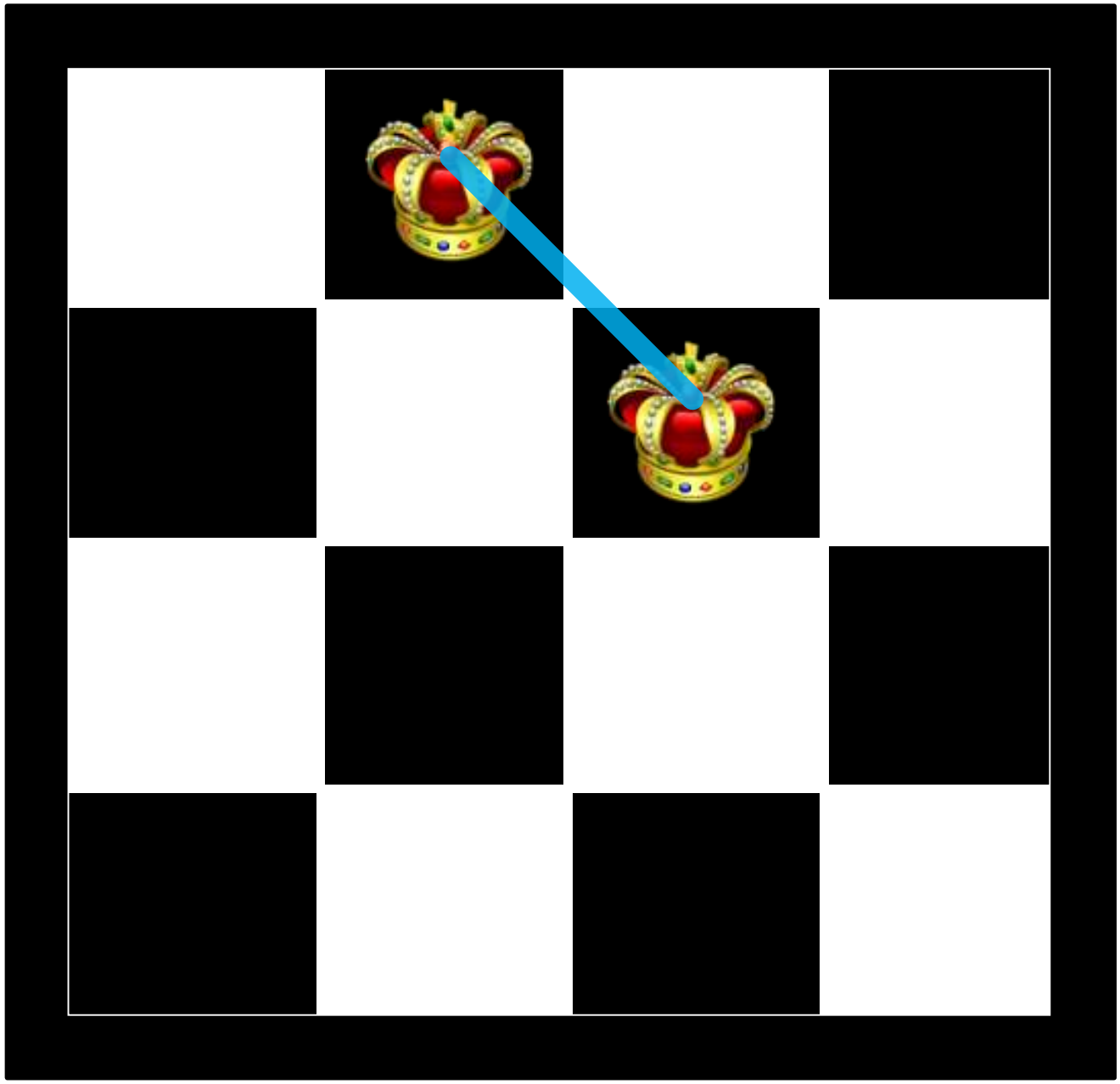

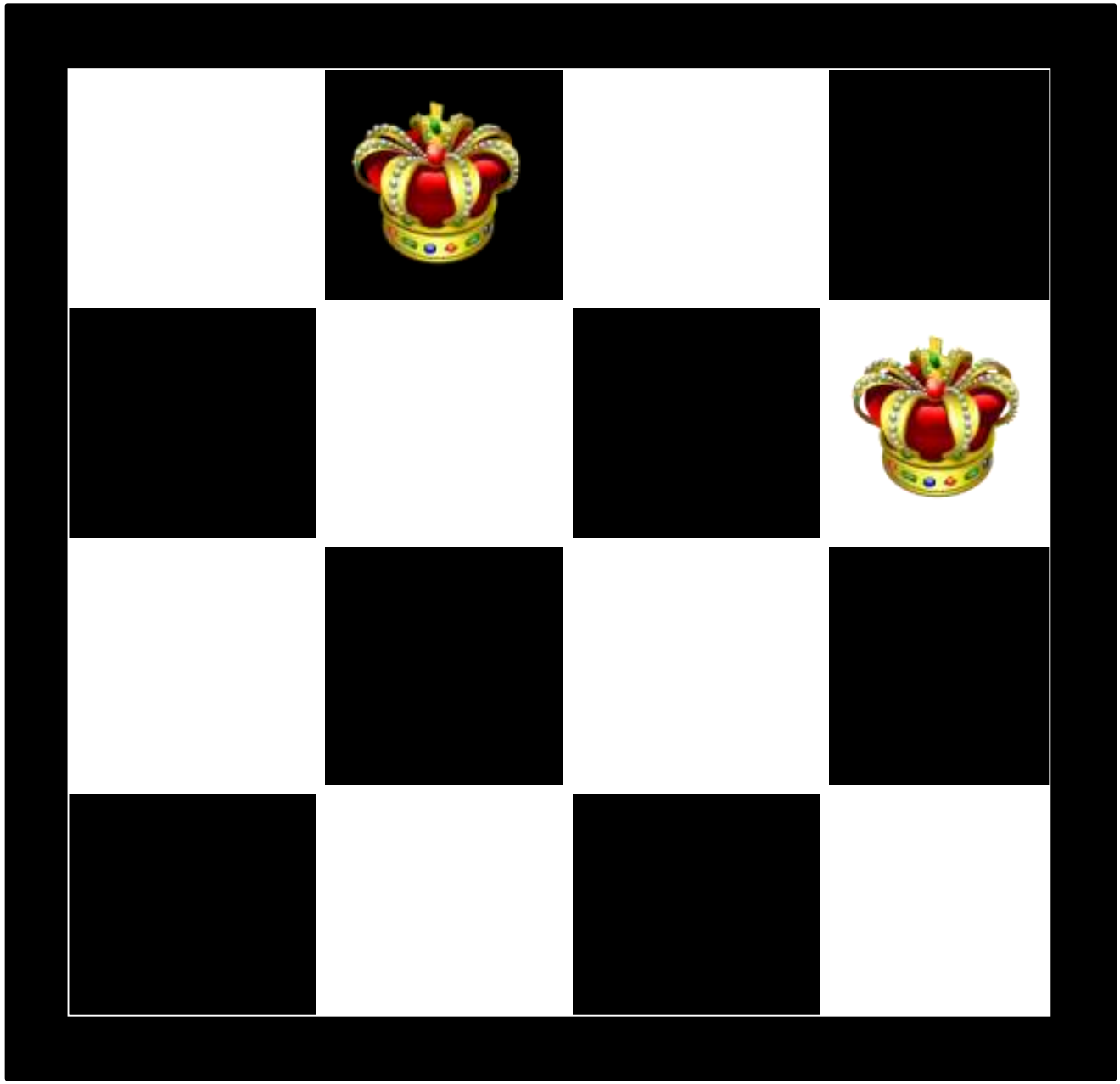

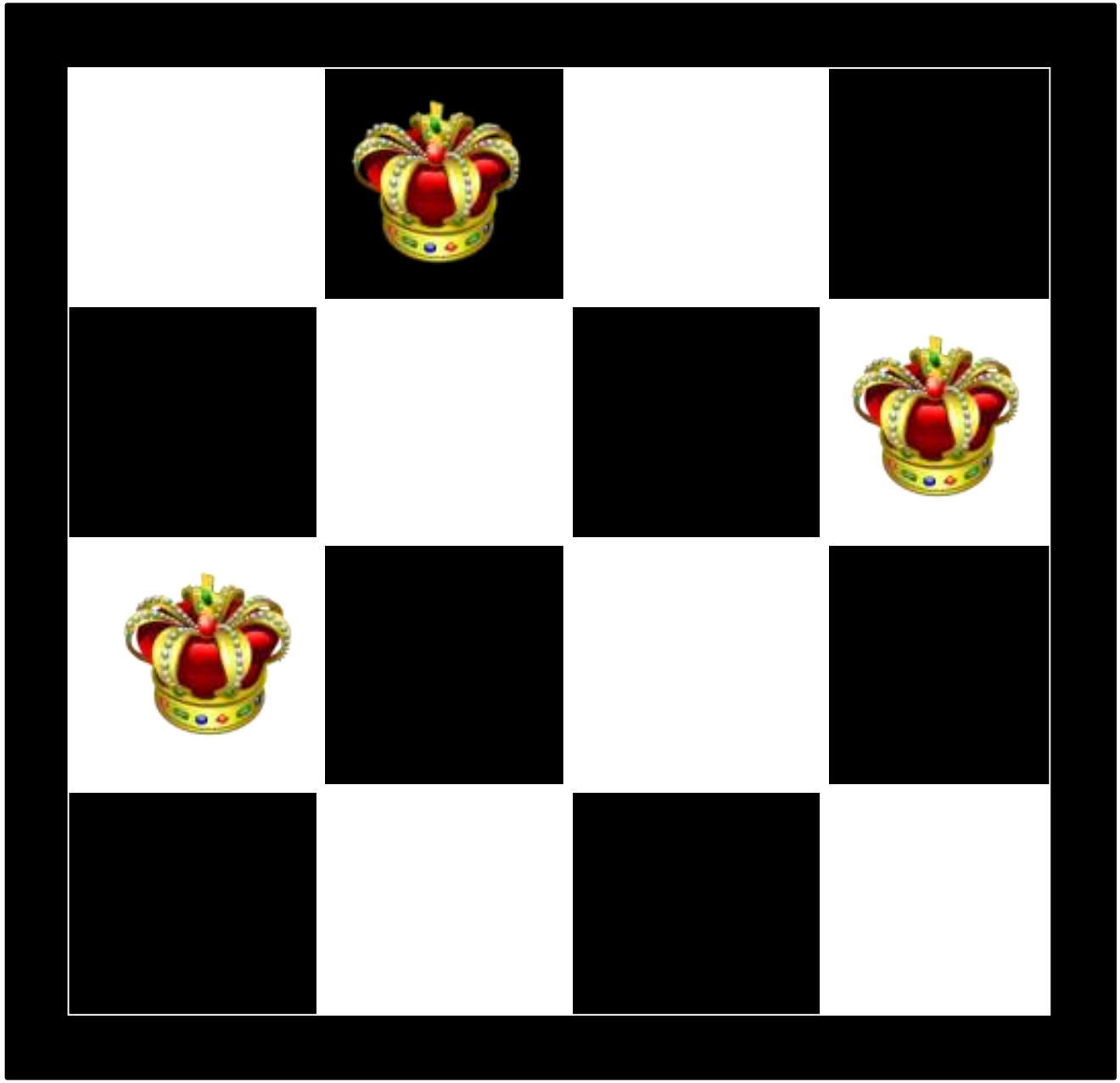

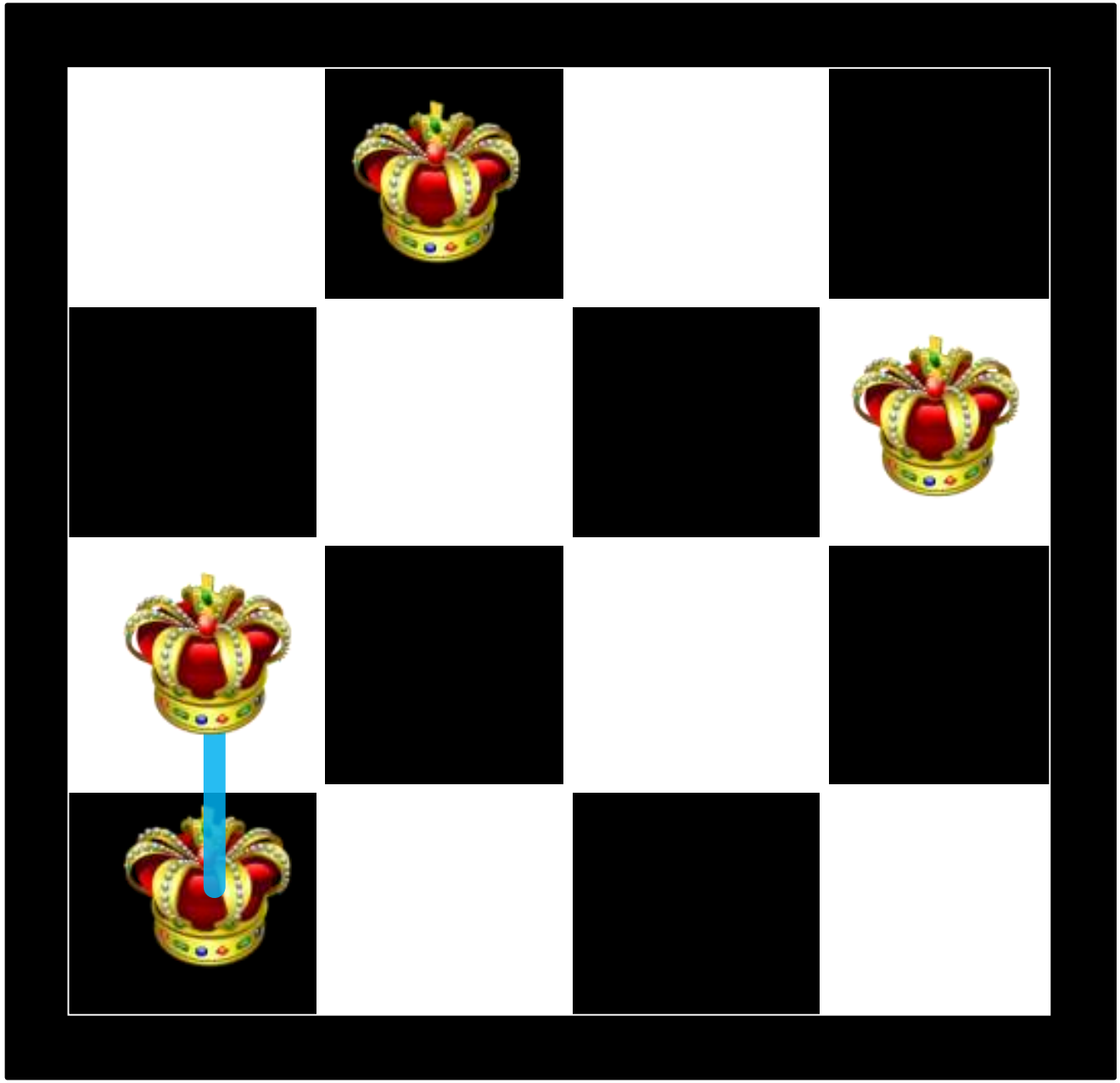

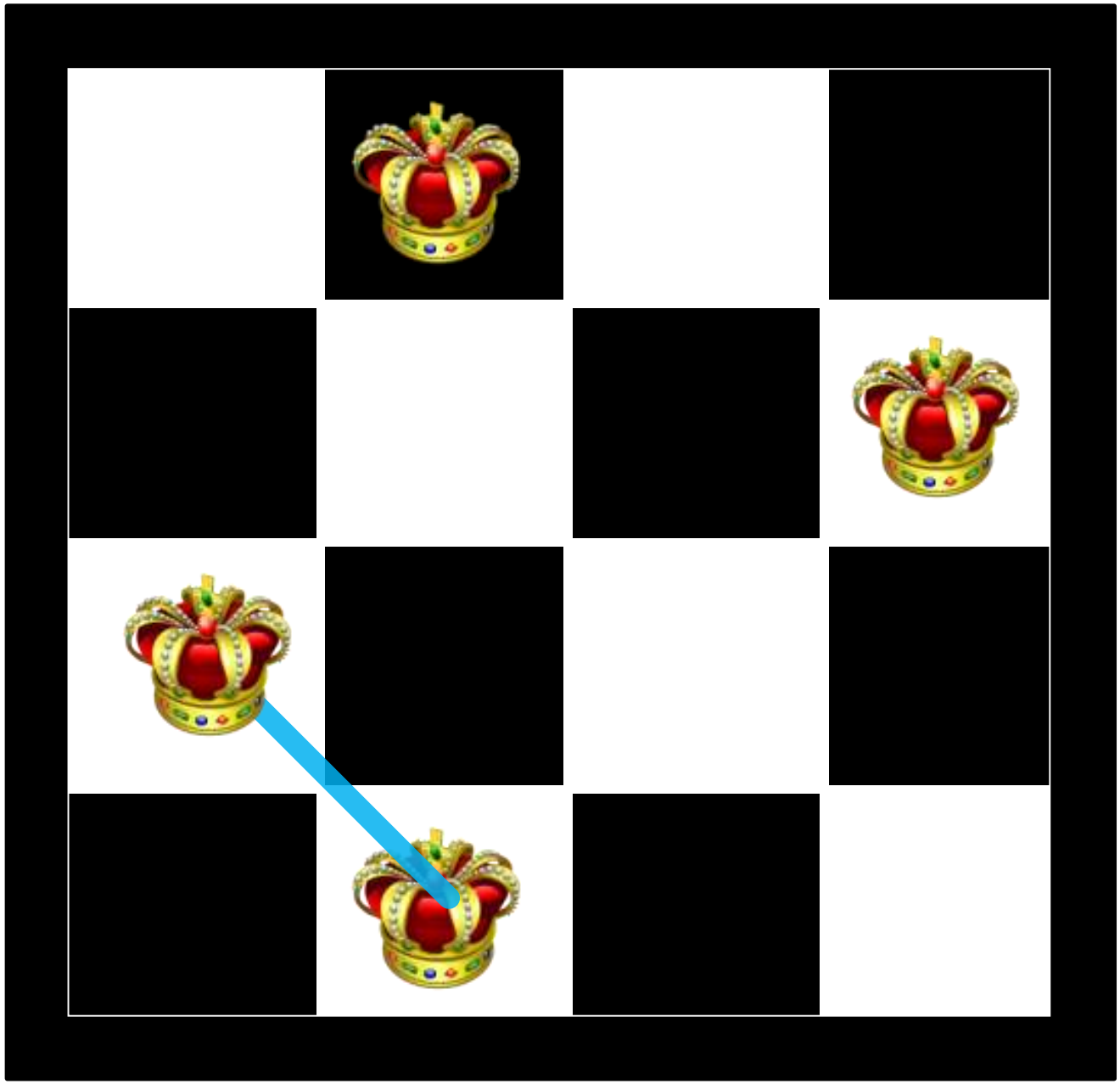

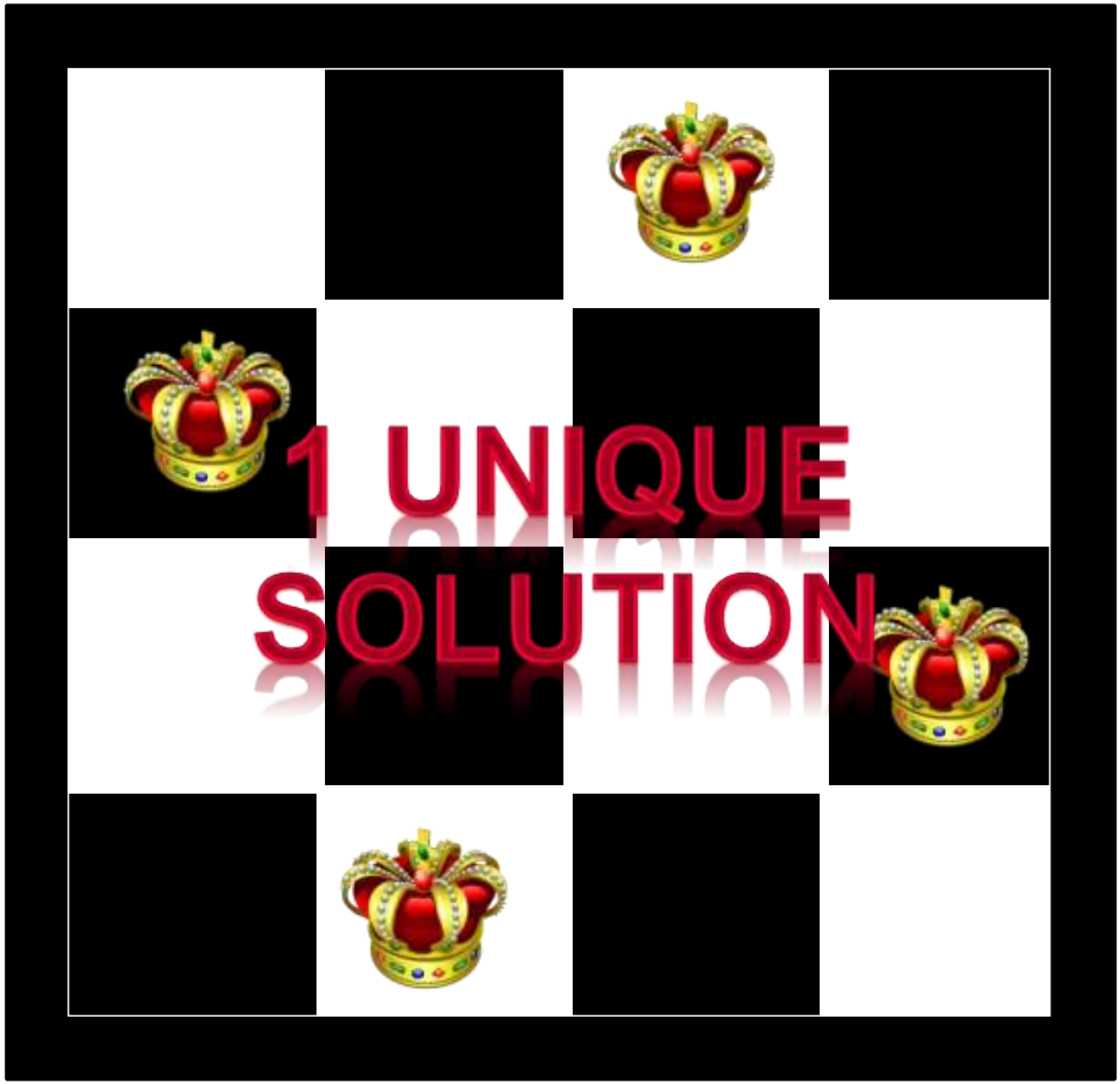
1 UNIQUE
SOLUTION

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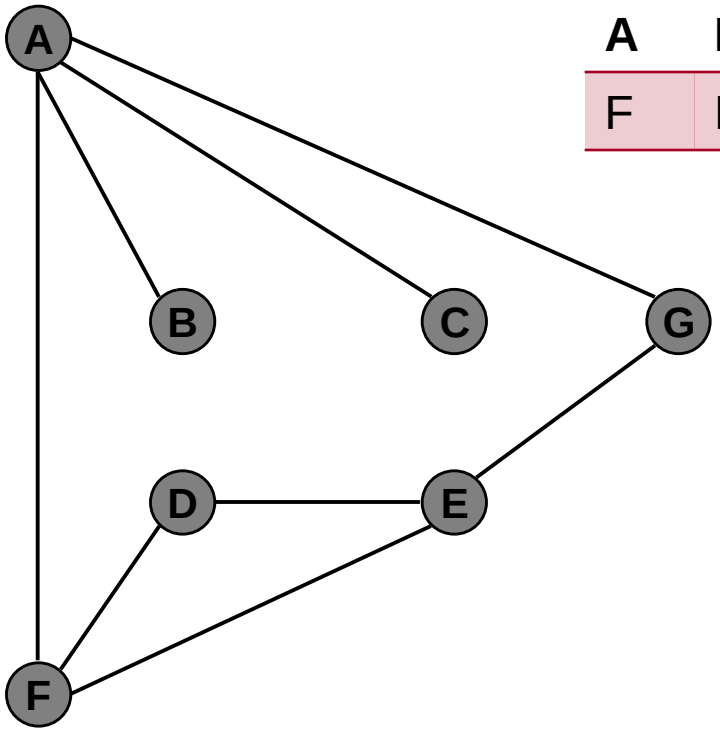

A	B	C	D	E	F	G
F	F	F	F	F	F	F

Adjacency Lists

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A:  F C B G
B:  A
C:  A
D:  F E
E:  G F D
F:  A E D
G:  E A
H:  I
I:  H
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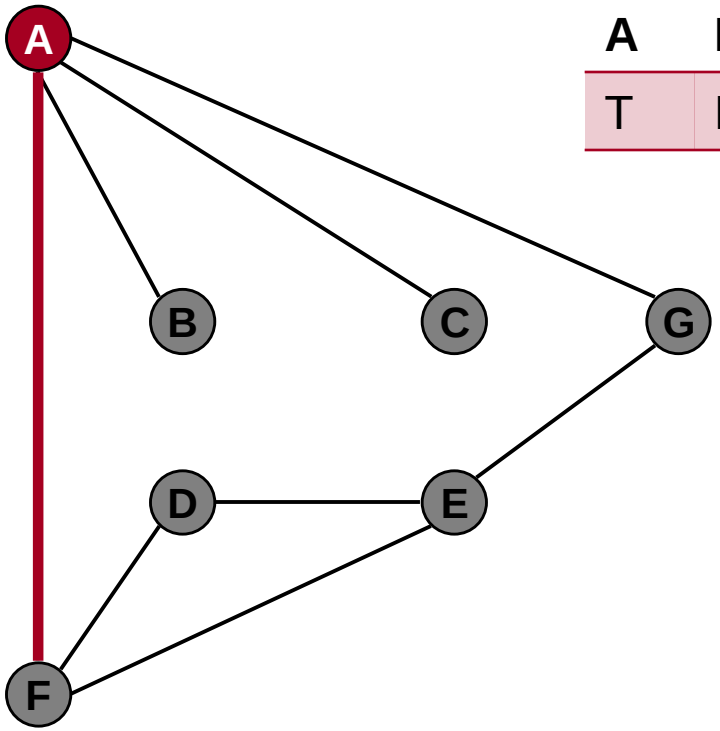
Undirected Depth First Search



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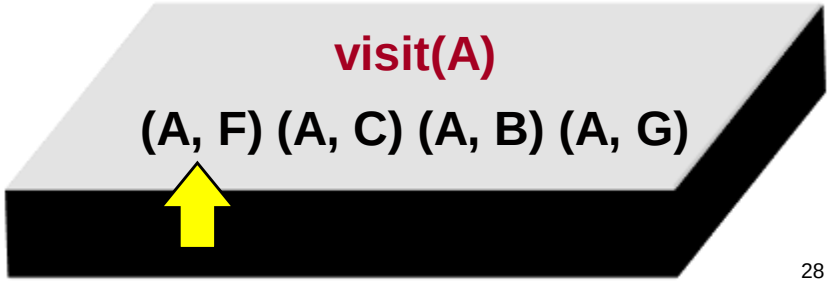
T	F	F	F	F	F	F

F newly discovered

Undiscovered
Marked
Active
Finished

Stack



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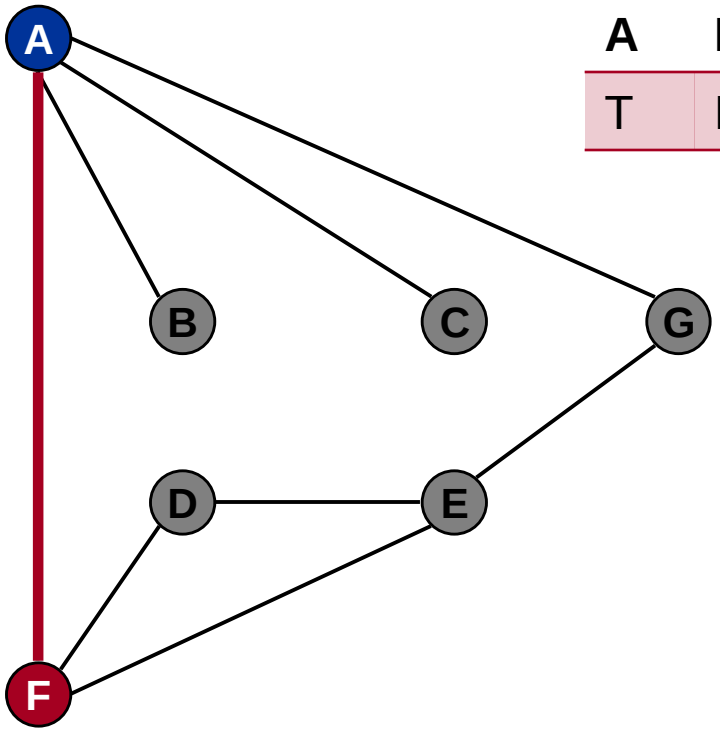
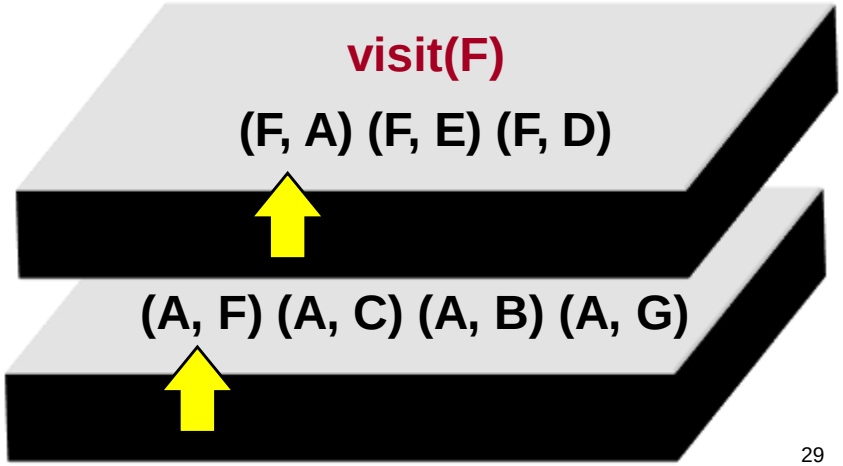


A	B	C	D	E	F	G
T	F	F	F	F	T	F

A already marked

Stack



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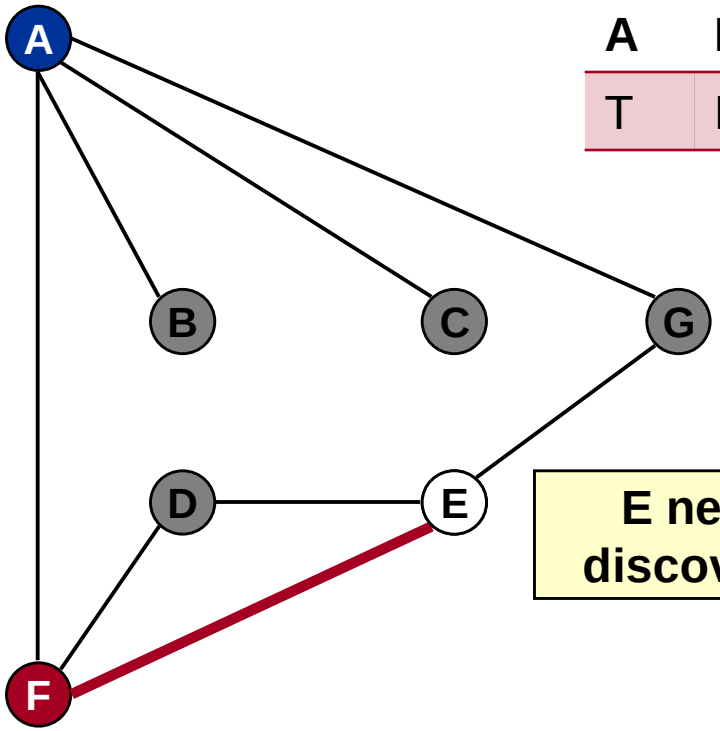
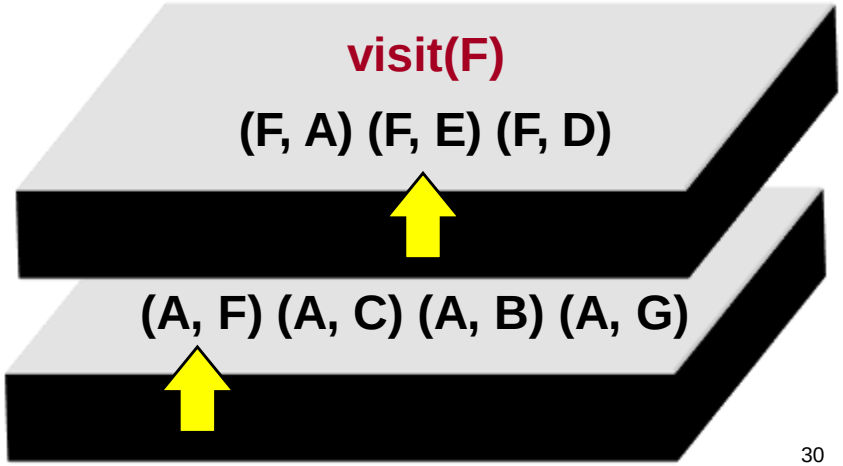


A	B	C	D	E	F	G
T	F	F	F	F	T	F

E newly discovered

Undiscovered
Marked
Active
Finished



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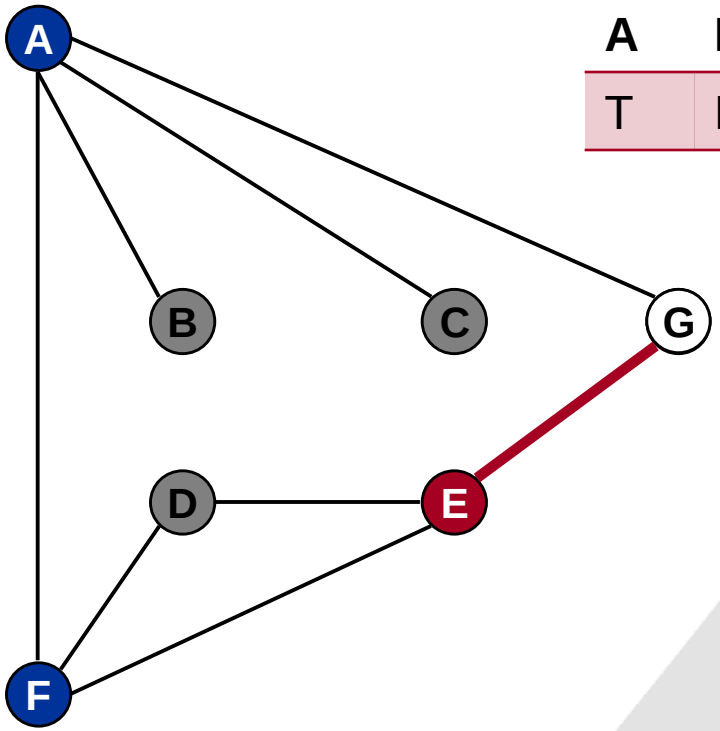
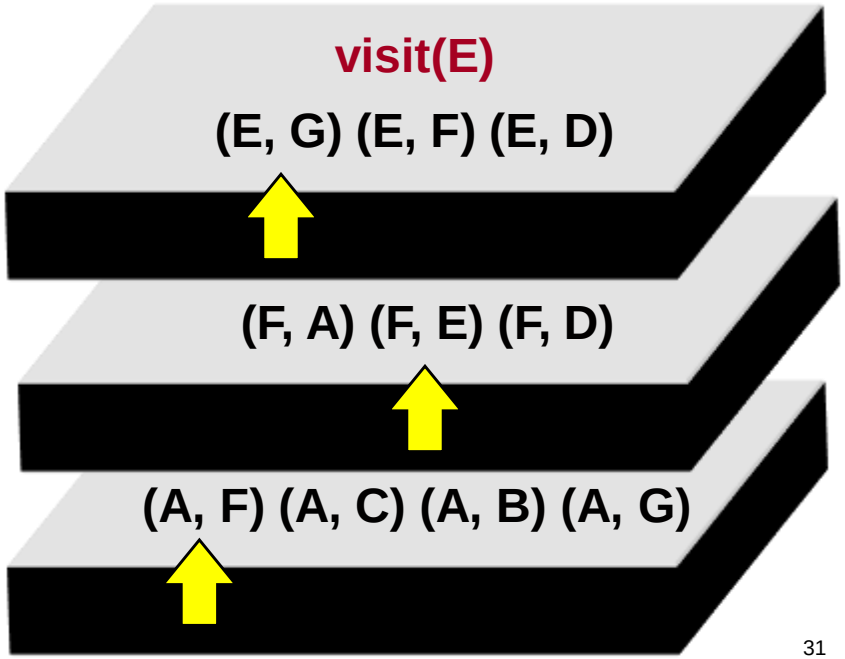


A	B	C	D	E	F	G
T	F	F	F	T	T	F

G newly discovered



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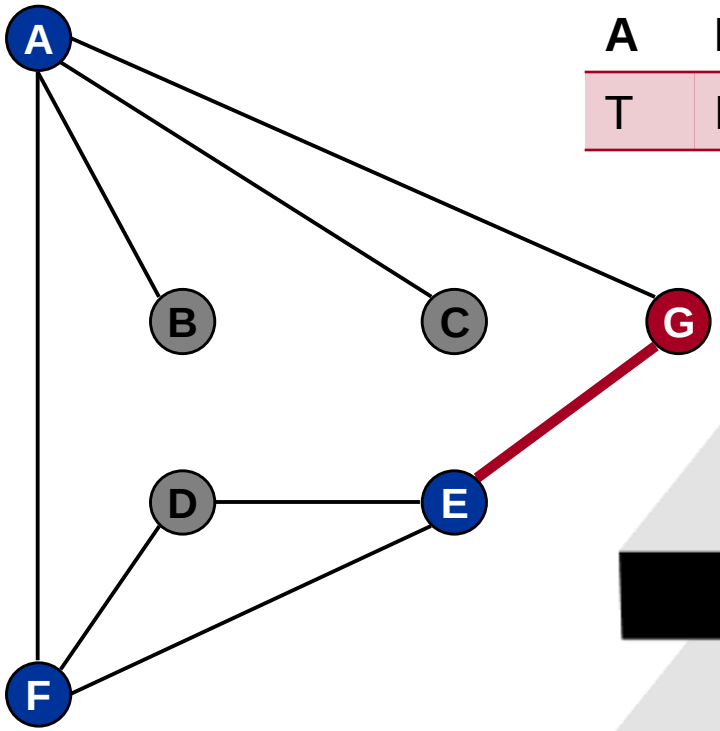
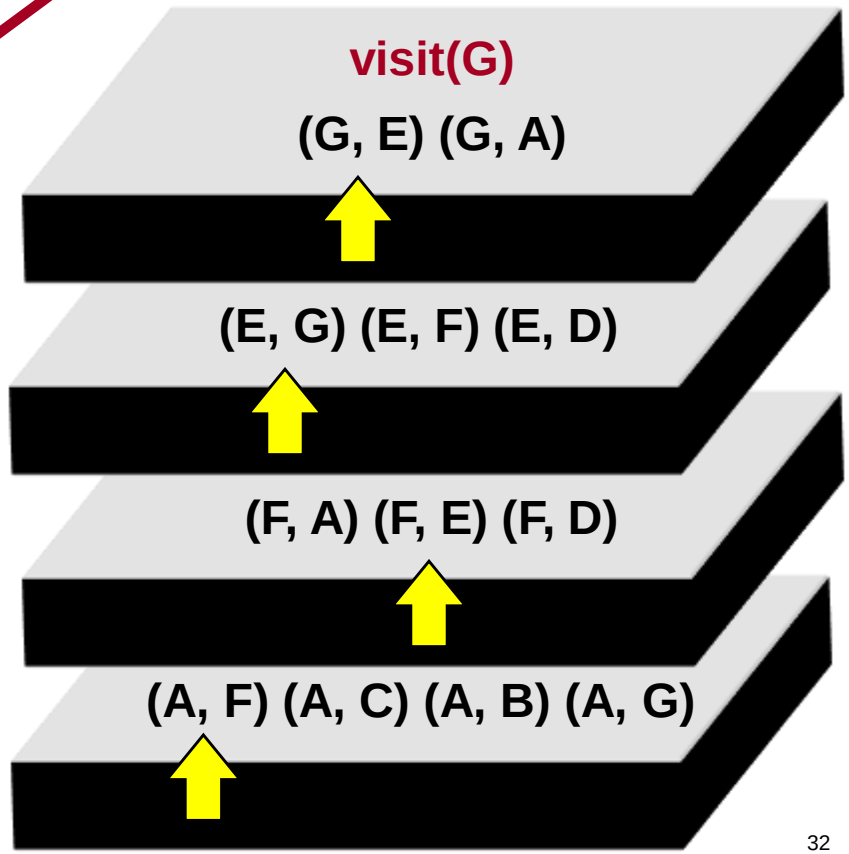


A	B	C	D	E	F	G
T	F	F	F	T	T	T

E already marked



Stack

Undirected Depth First Search

A	B	C	D	E	F	G
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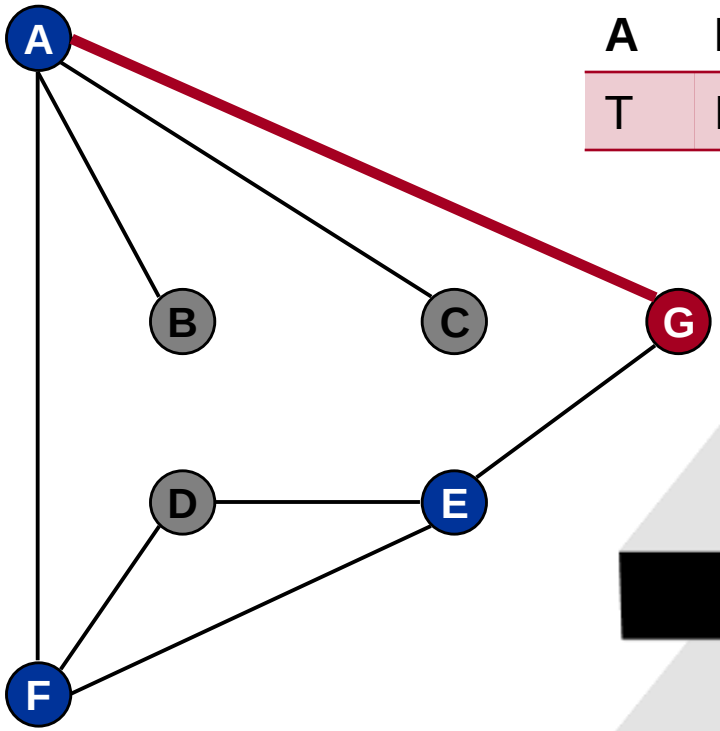
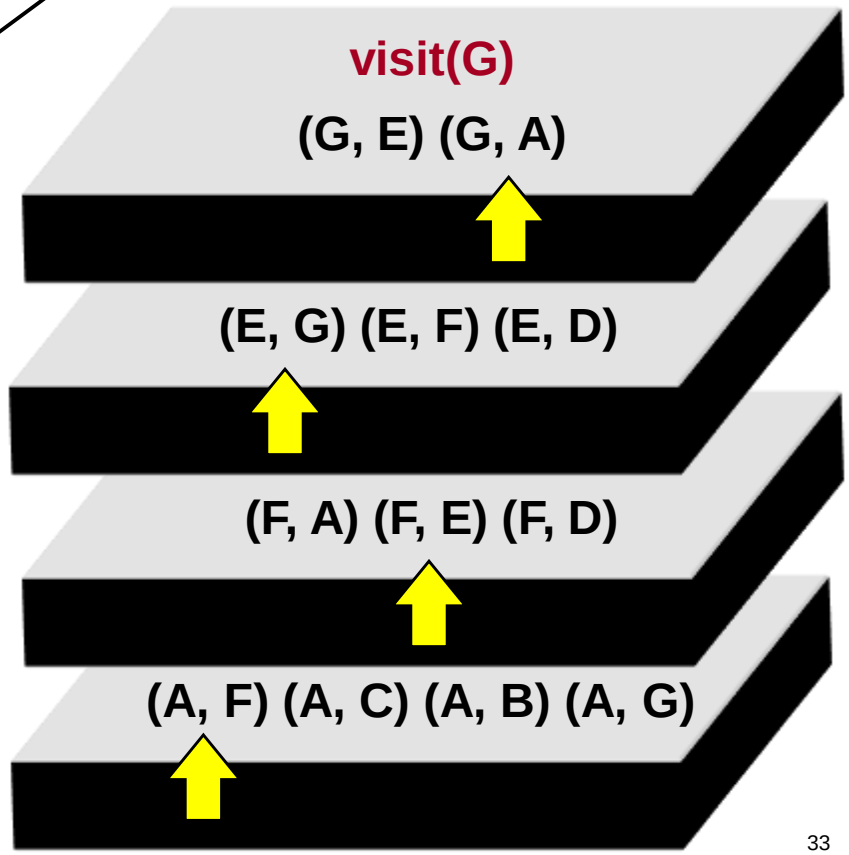
A already marked

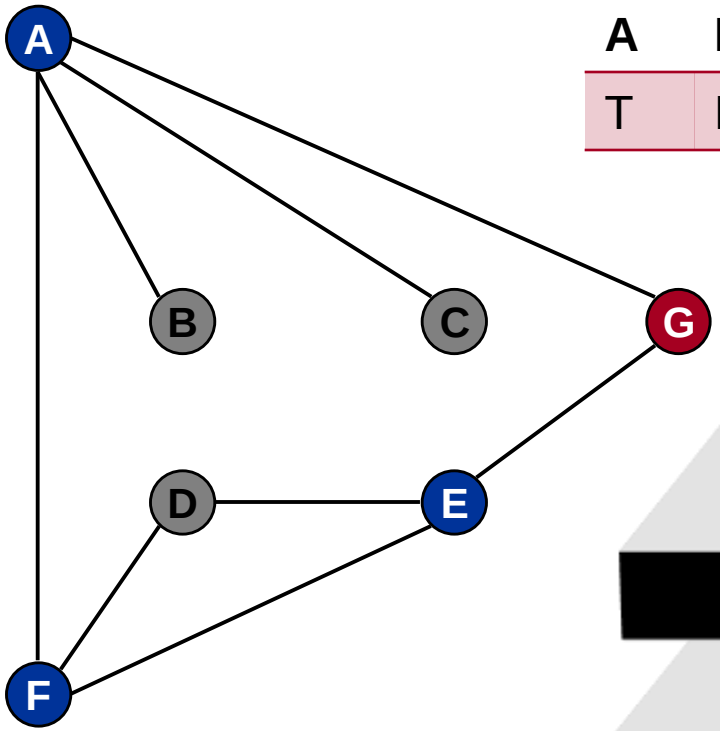




Undiscovered
Marked
Active
Finished

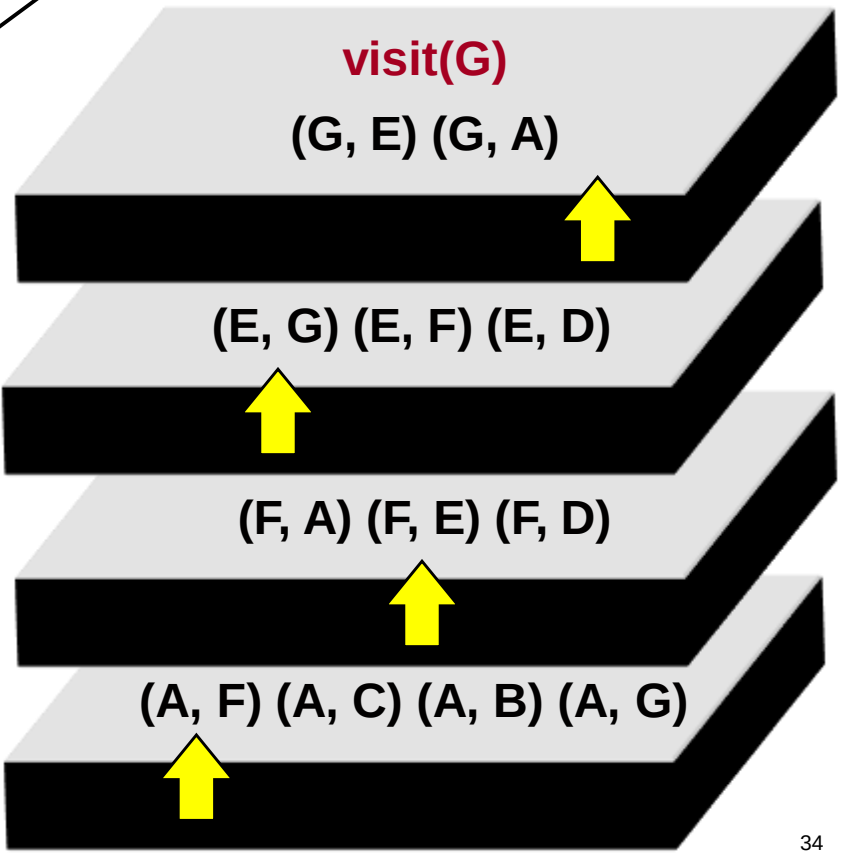
Stack

Undirected Depth First Search



A	B	C	D	E	F	G
T	F	F	F	T	T	T

Finished G



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Stack

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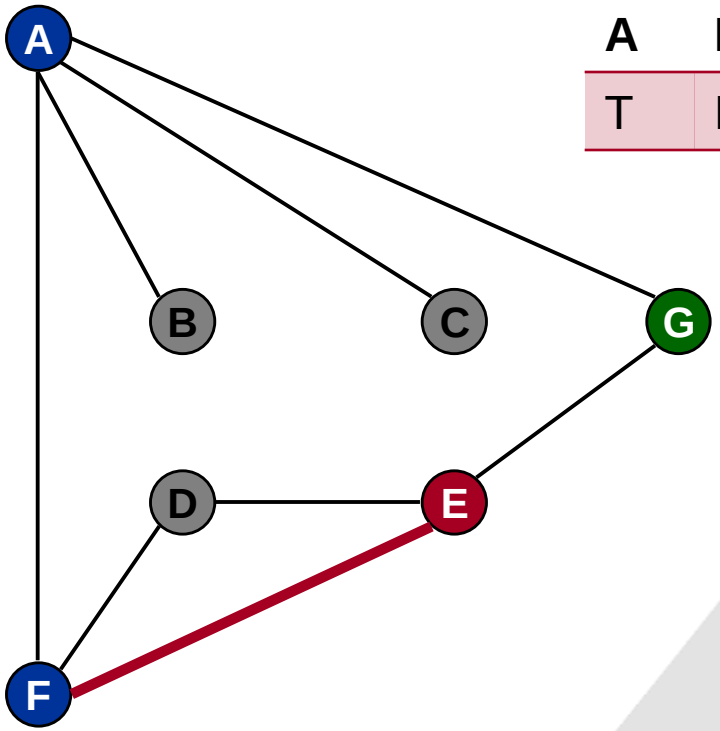
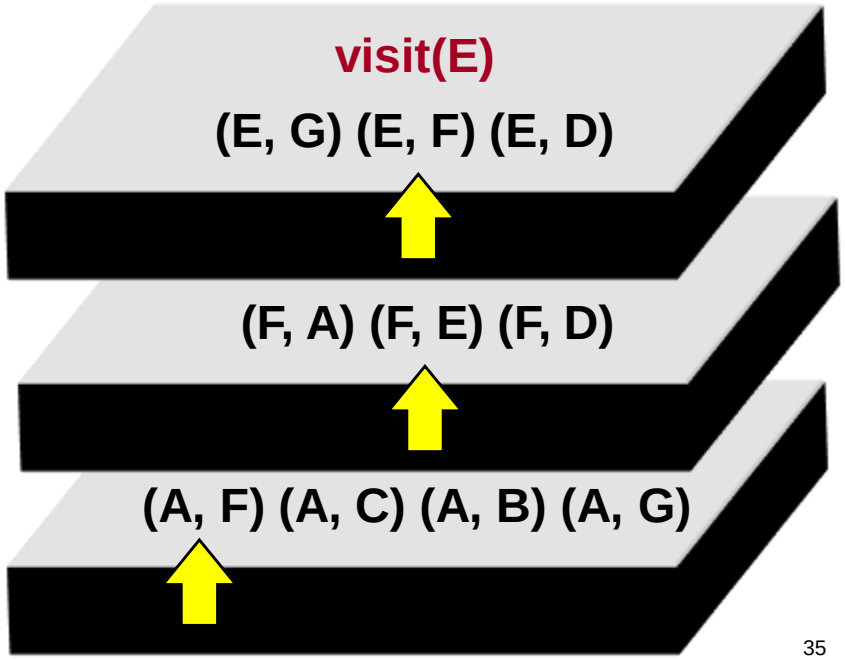


A	B	C	D	E	F	G
T	F	F	F	T	T	T

F already marked

Undiscovered
Marked
Active
Finished



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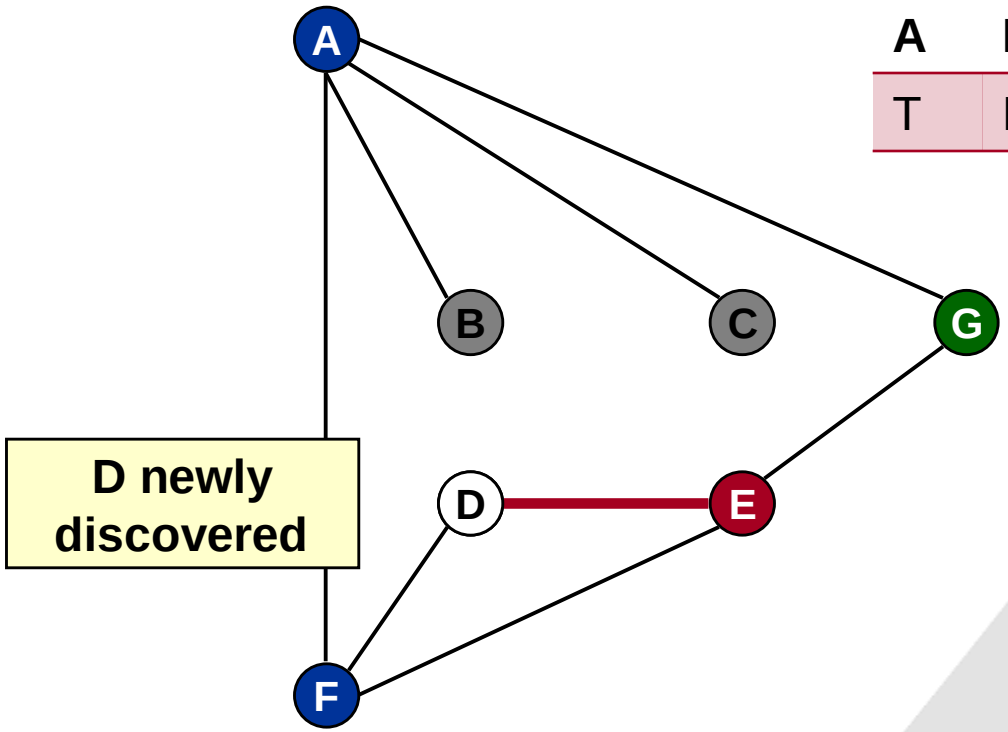

A	B	C	D	E	F	G
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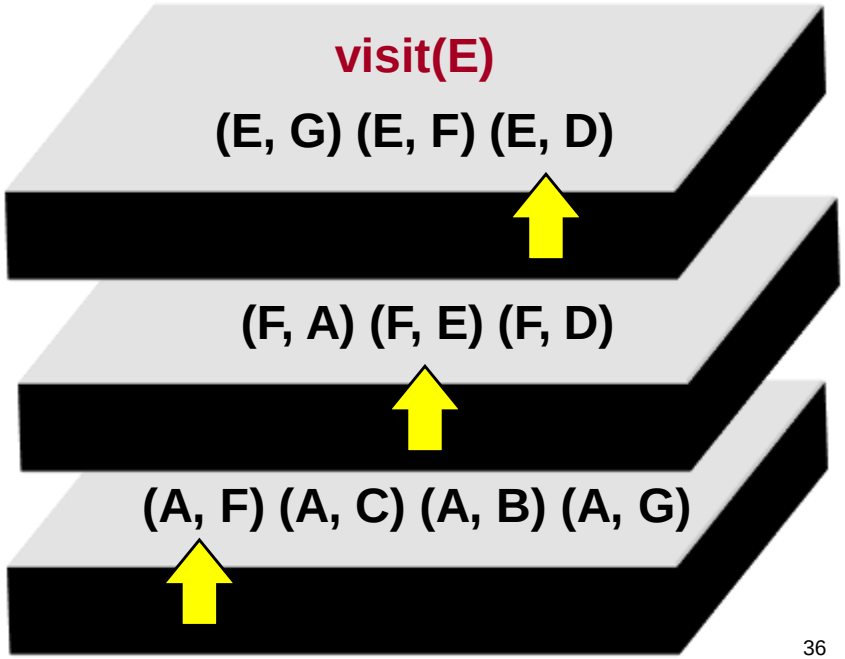

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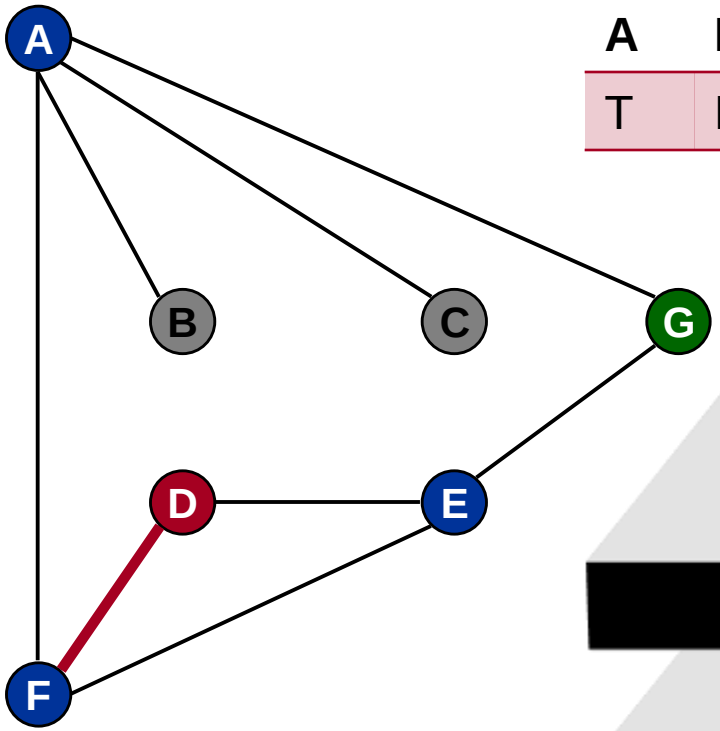

A	B	C	D	E	F	G
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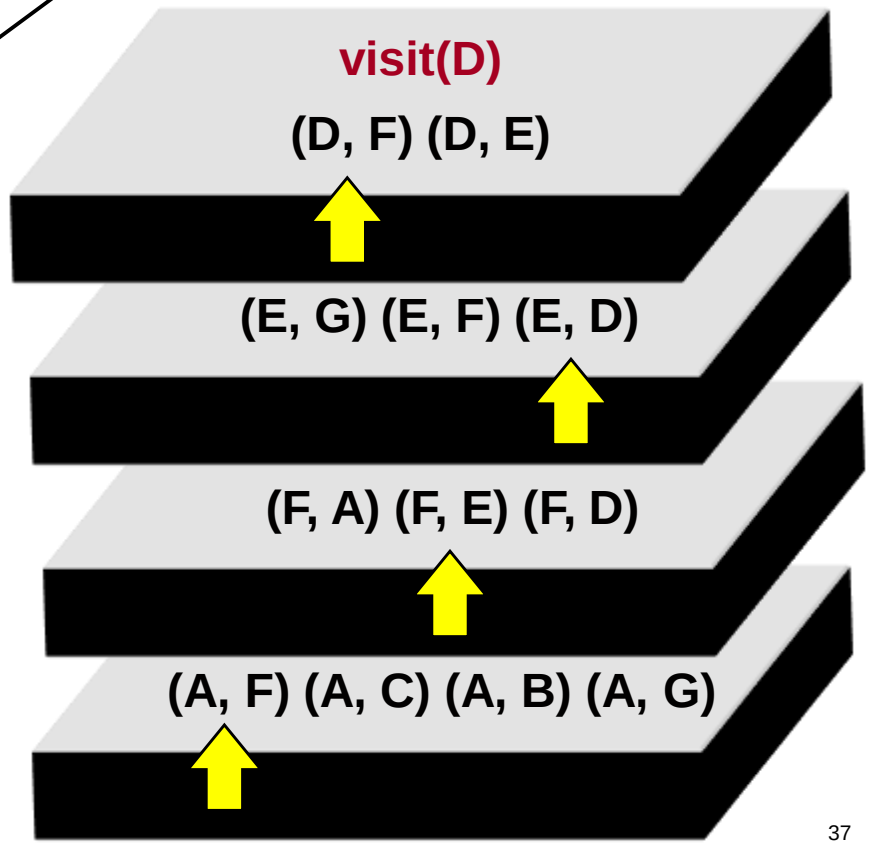
F already marked



Undiscovered
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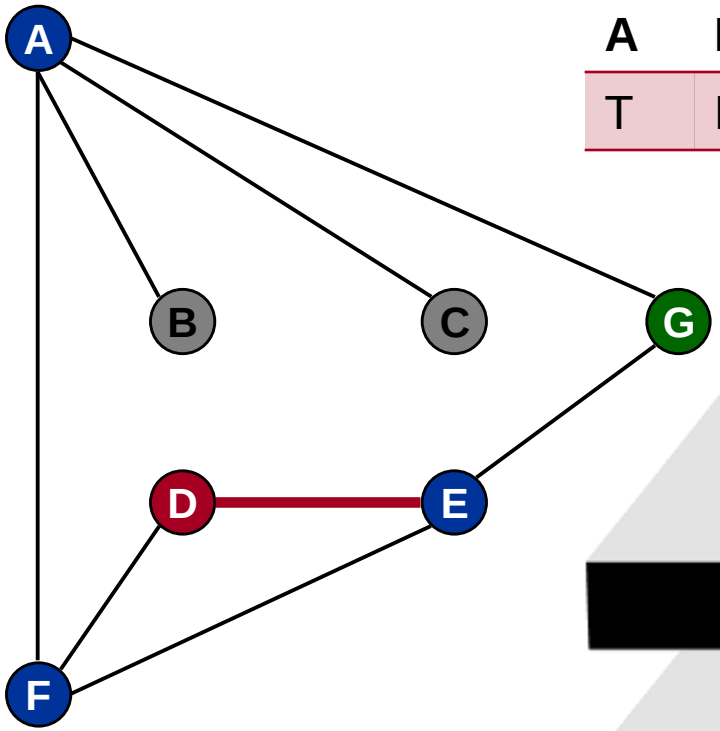
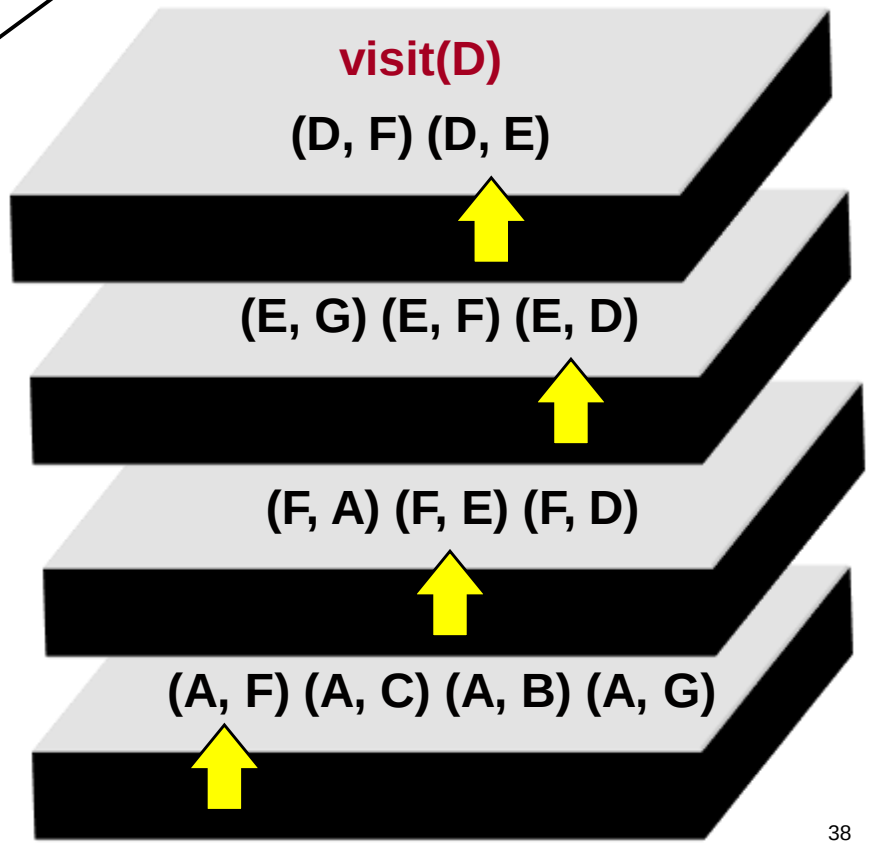
Stack

Undirected Depth First Search



A	B	C	D	E	F	G
T	F	F	T	T	T	T

E already marked



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Stack

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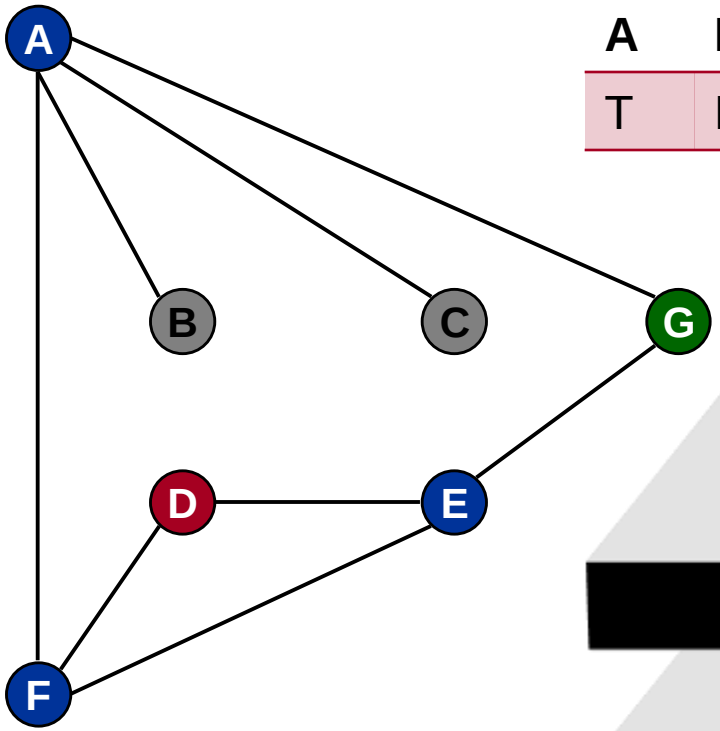
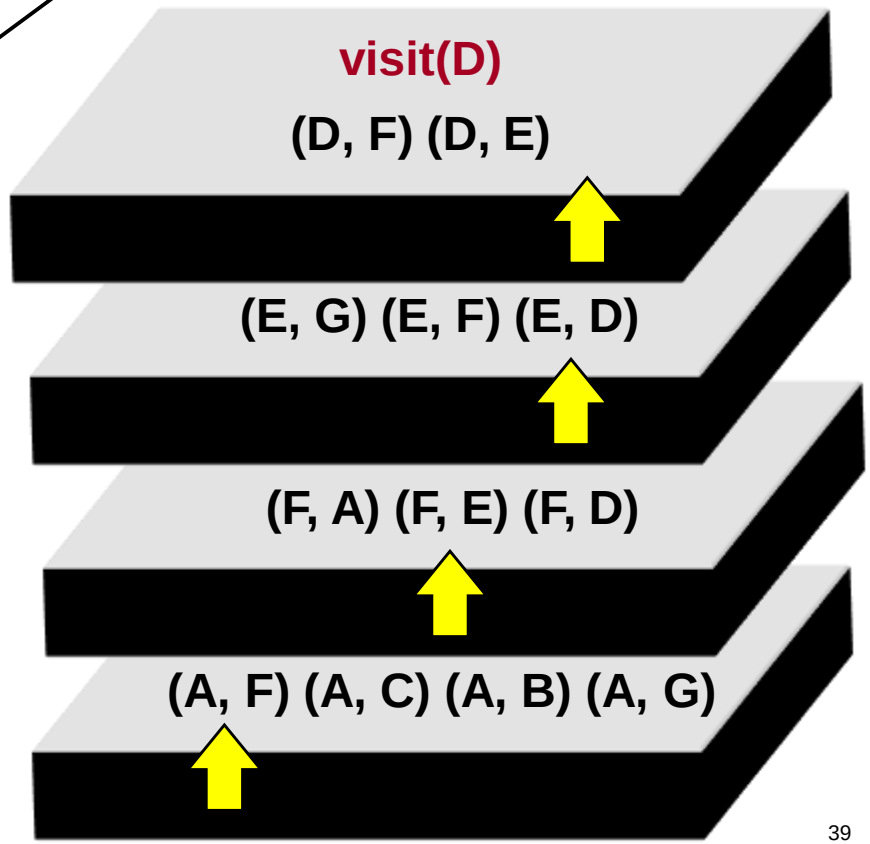


A	B	C	D	E	F	G
T	F	F	T	T	T	T

Finished D



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Stack

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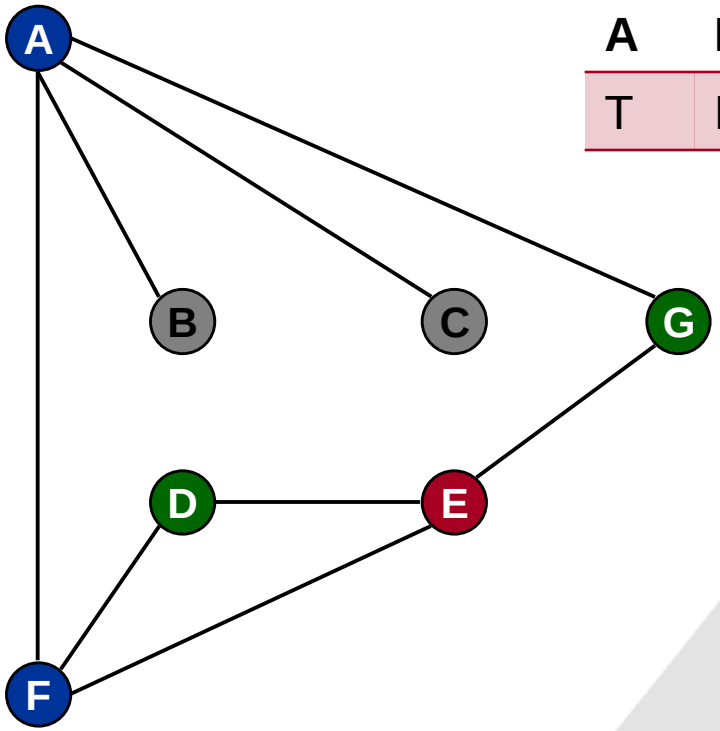


A	B	C	D	E	F	G
T	F	F	T	T	T	T

Finished E

visit(E)

(E, G) (E, F) (E, D)

(F, A) (F, E) (F, D)

(A, F) (A, C) (A, B) (A, G)

Stack

Undiscovered

Marked

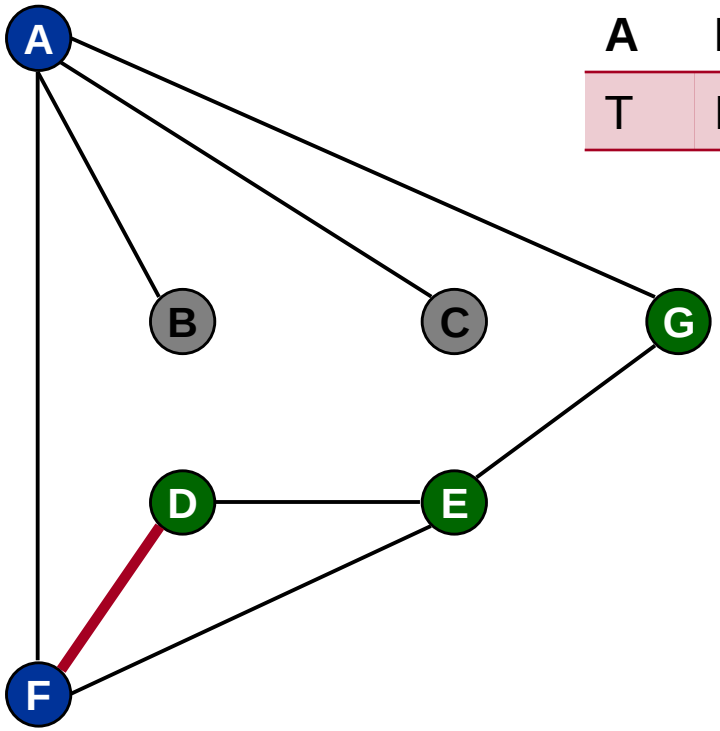
Active

Finished

Undirected Depth First Search

A	B	C	D	E	F	G
T	F	F	T	T	T	T

D already marked



Undiscovered
Marked
Active
Finished

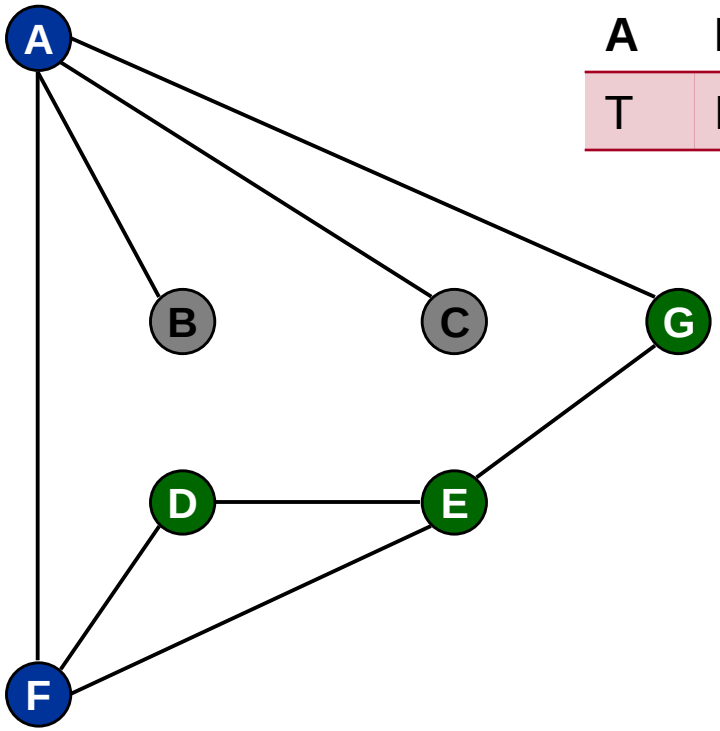
visit(F)

(F, A) (F, E) (F, D)

(A, F) (A, C) (A, B) (A, G)

Stack

Undirected Depth First Search



A	B	C	D	E	F	G
T	F	F	T	T	T	T

Finished F

visit(F)

(F, A) (F, E) (F, D)

(A, F) (A, C) (A, B) (A, G)

Stack

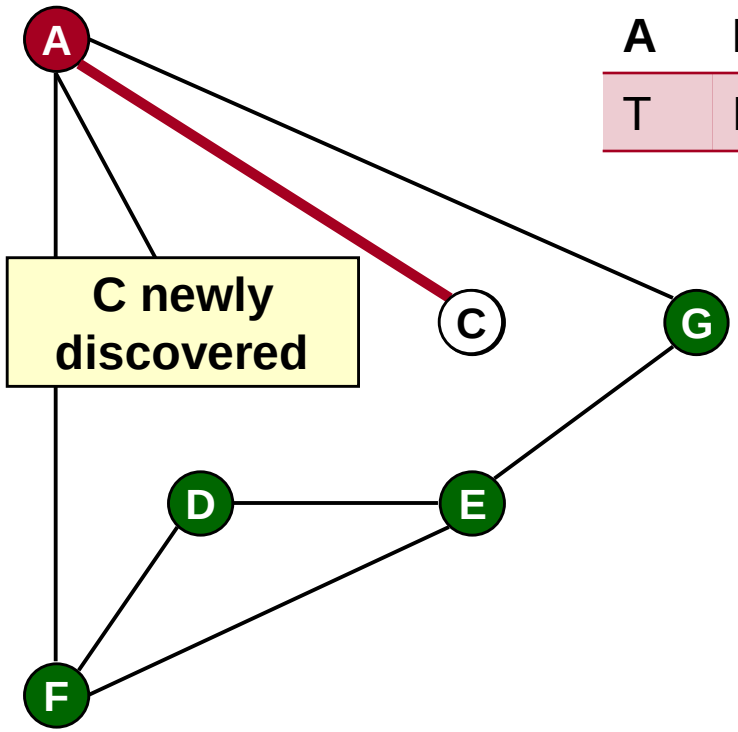
Undiscovered

Marked

Active

Finished

Undirected Depth First Search



A	B	C	D	E	F	G
T	F	T	T	T	T	T

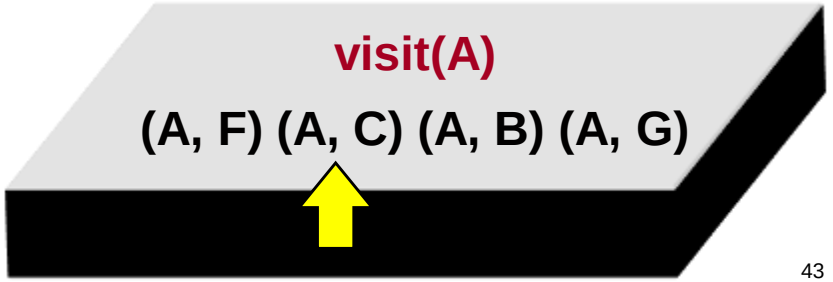
Undiscovered

Marked

Active

Finished

Stack



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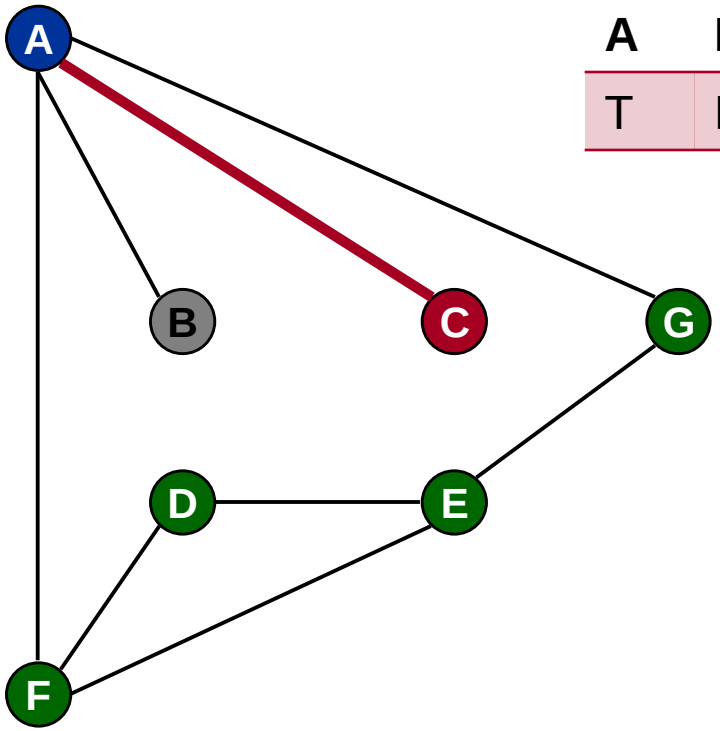
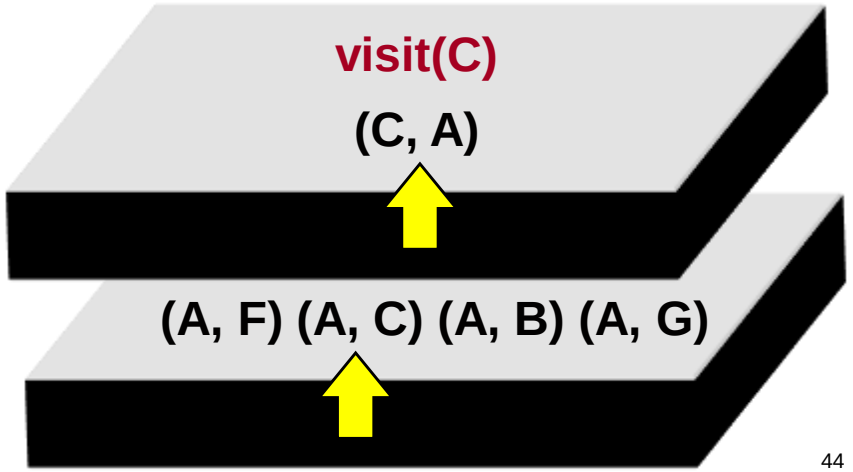


A	B	C	D	E	F	G
T	F	T	T	T	T	T

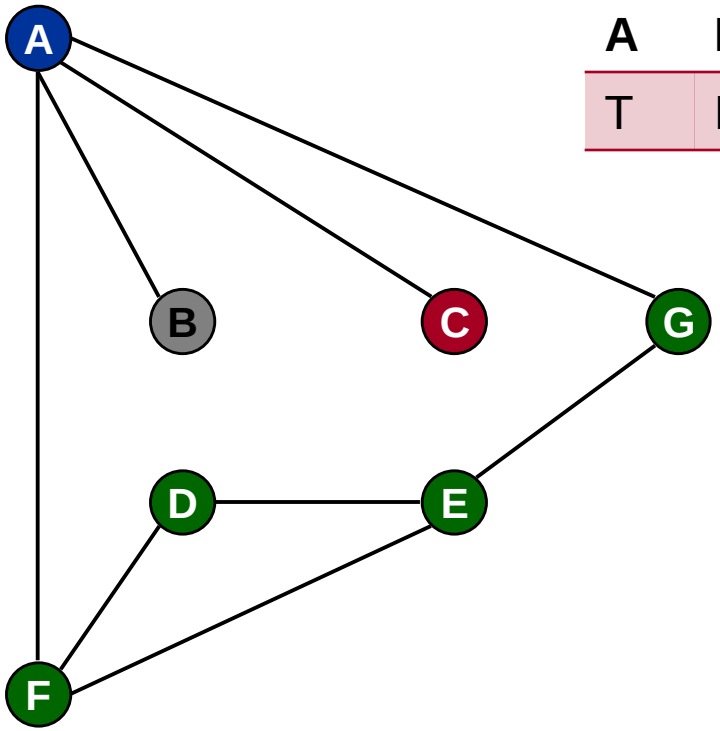
A already marked

Undiscovered
Marked
Active
Finished



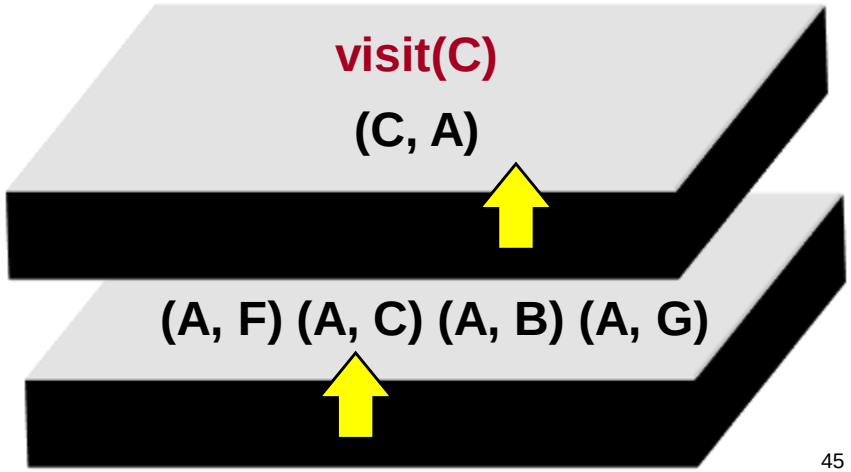
Stack

Undirected Depth First Search



A	B	C	D	E	F	G
T	F	T	T	T	T	T

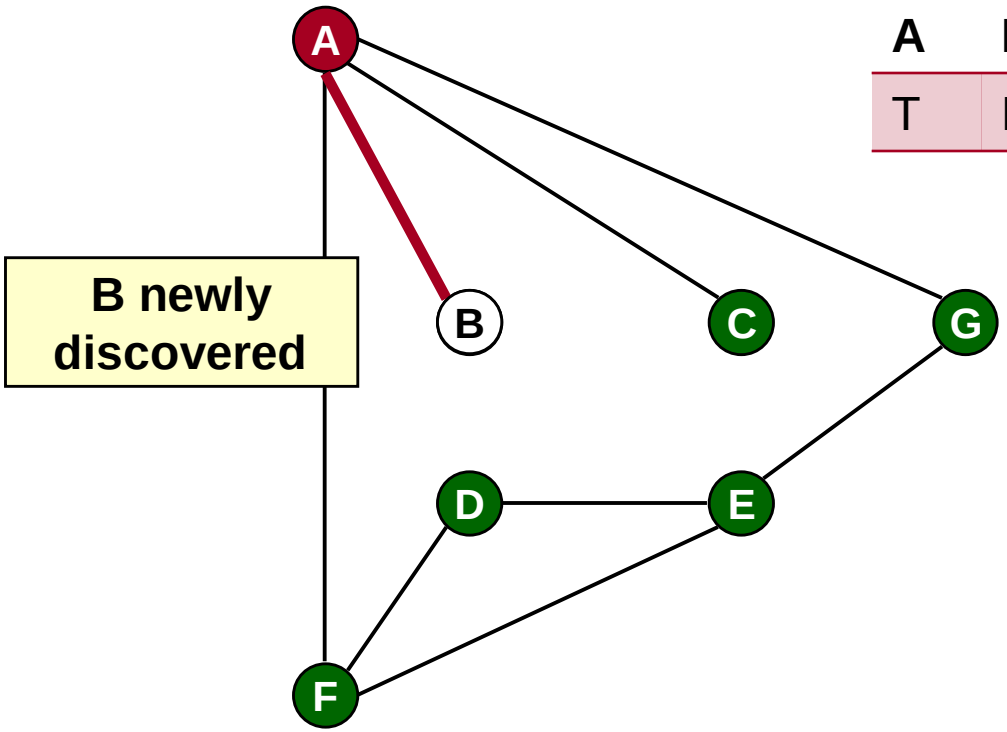
Finished C



Undiscovered
Marked
Active
Finished

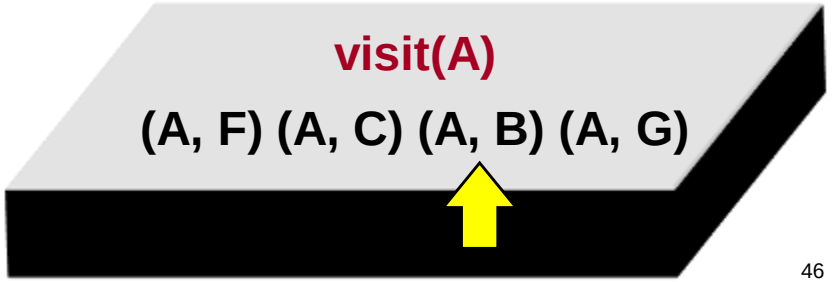
Stack

Undirected Depth First Search



A	B	C	D	E	F	G
T	F	T	T	T	T	T

Stack



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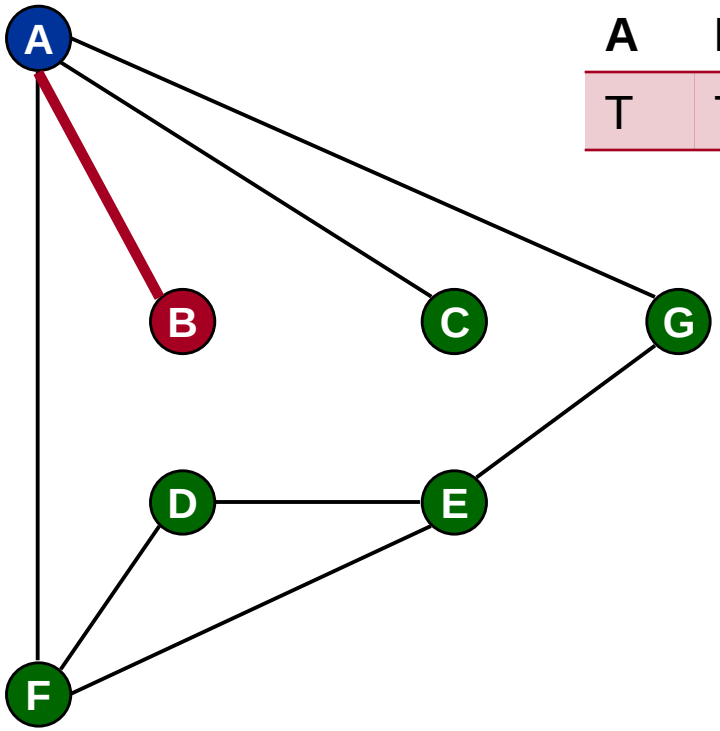
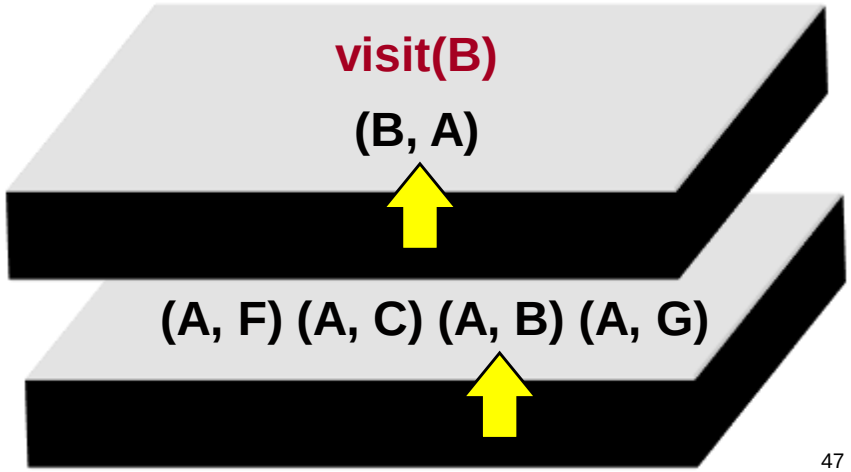


A	B	C	D	E	F	G
T	T	T	T	T	T	T

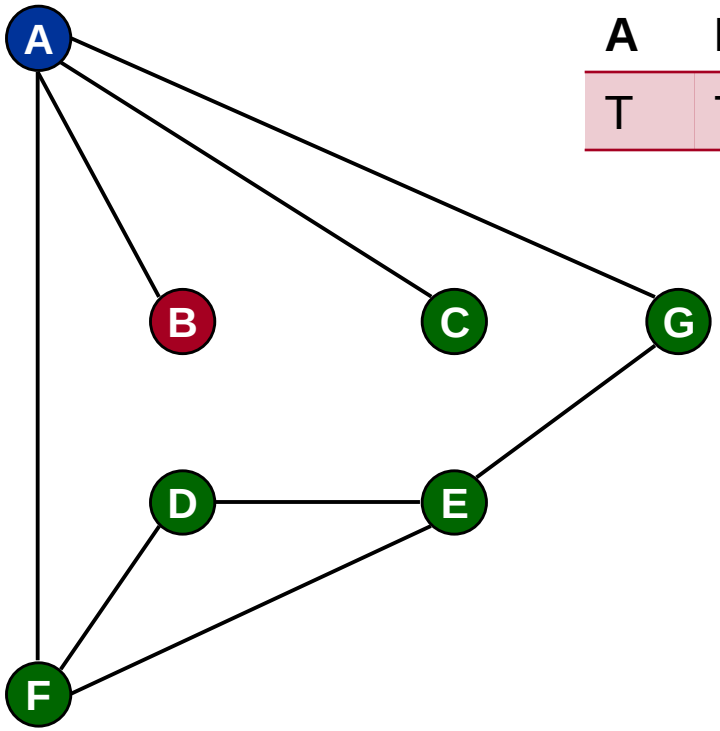
A already marked

Undiscovered
Marked
Active
Finished



Stack

Undirected Depth First Search



A	B	C	D	E	F	G
T	T	T	T	T	T	T

Finished B

visit(B)

(B, A)

(A, F) (A, C) (A, B) (A, G)

Stack

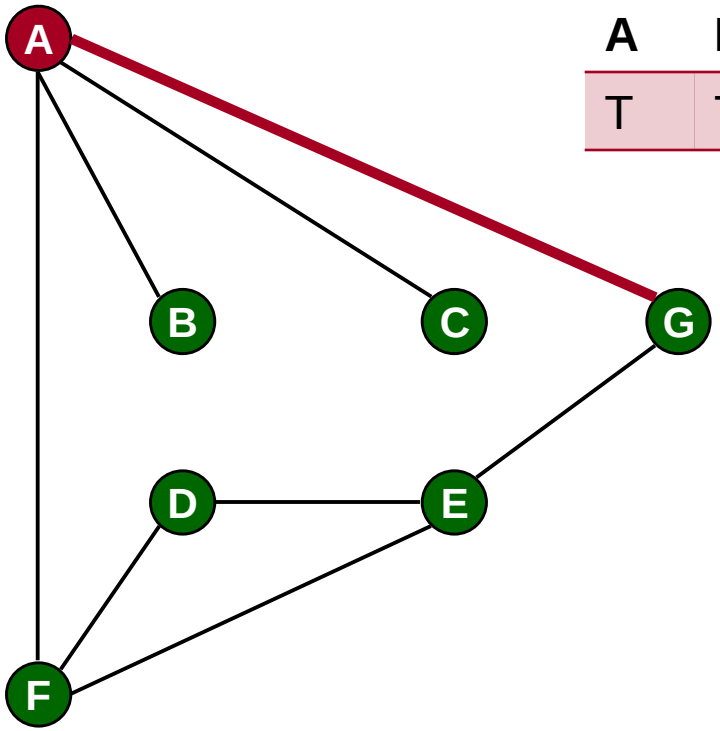
Undiscovered

Marked

Active

Finished

Undirected Depth First Search

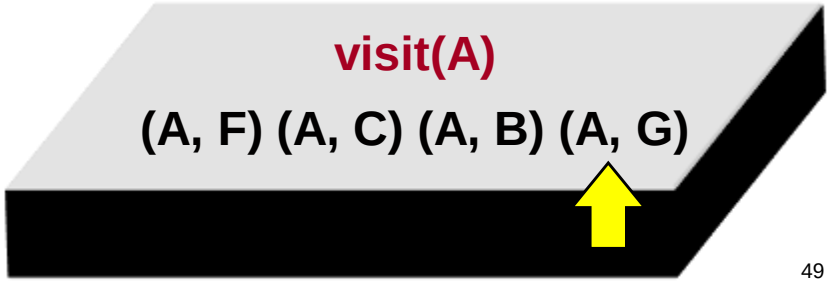


A	B	C	D	E	F	G
T	T	T	T	T	T	T

G already finished

Undiscovered
Marked
Active
Finished

Stack



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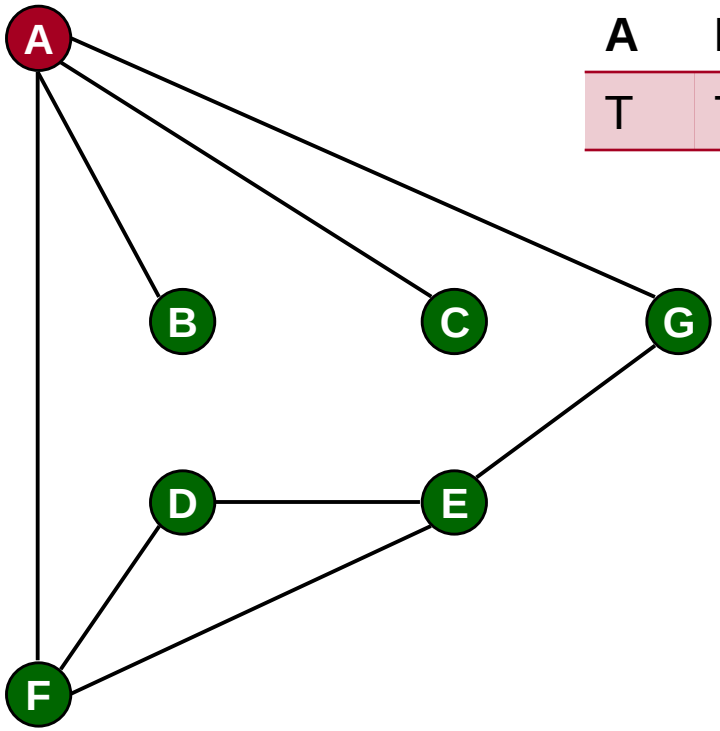

A	B	C	D	E	F	G
T	T	T	T	T	T	T

Undiscovered

Marked

Active

Finished

Finished A

visit(A)

(A, F) (A, C) (A, B) (A, G)

Stack