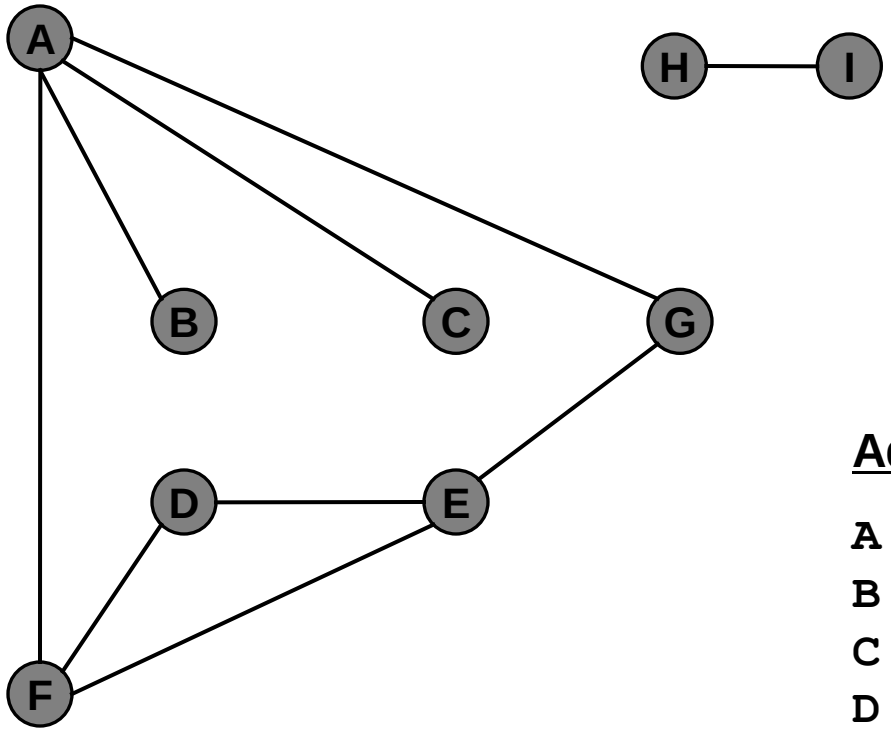
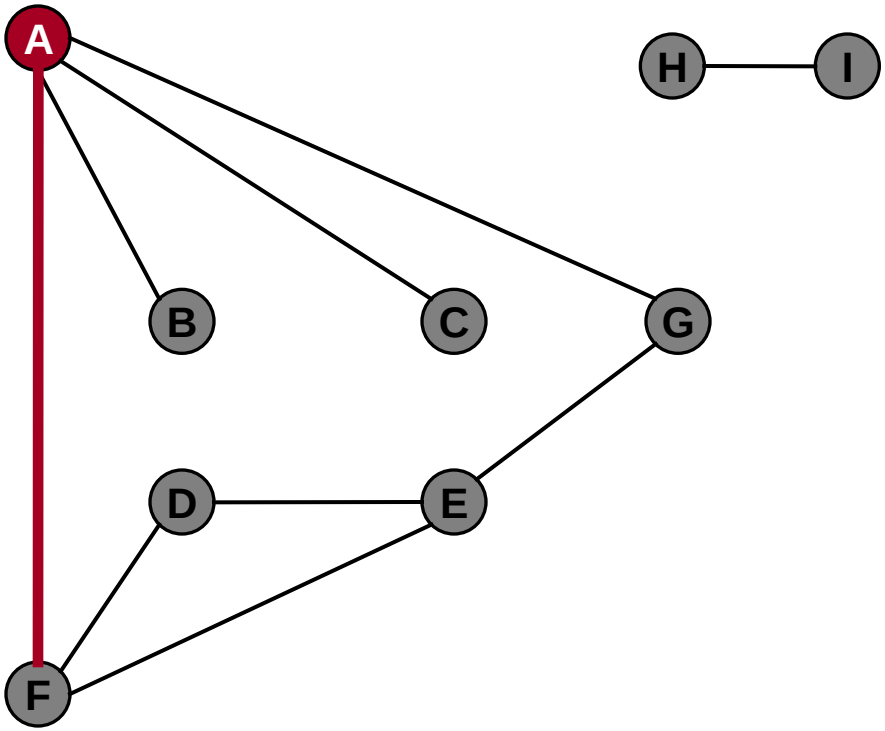
Undirected Depth First Search



Adjacency Lists

```
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
```

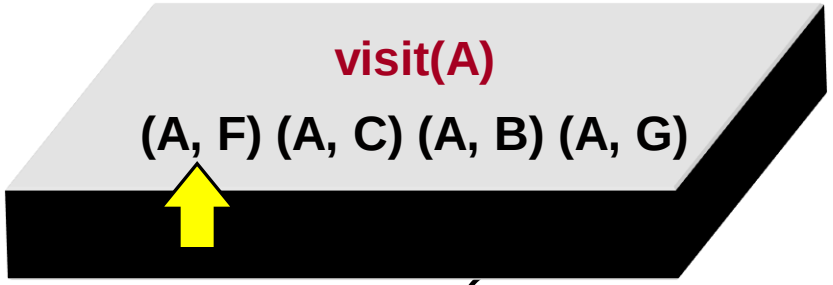
Undirected Depth First Search



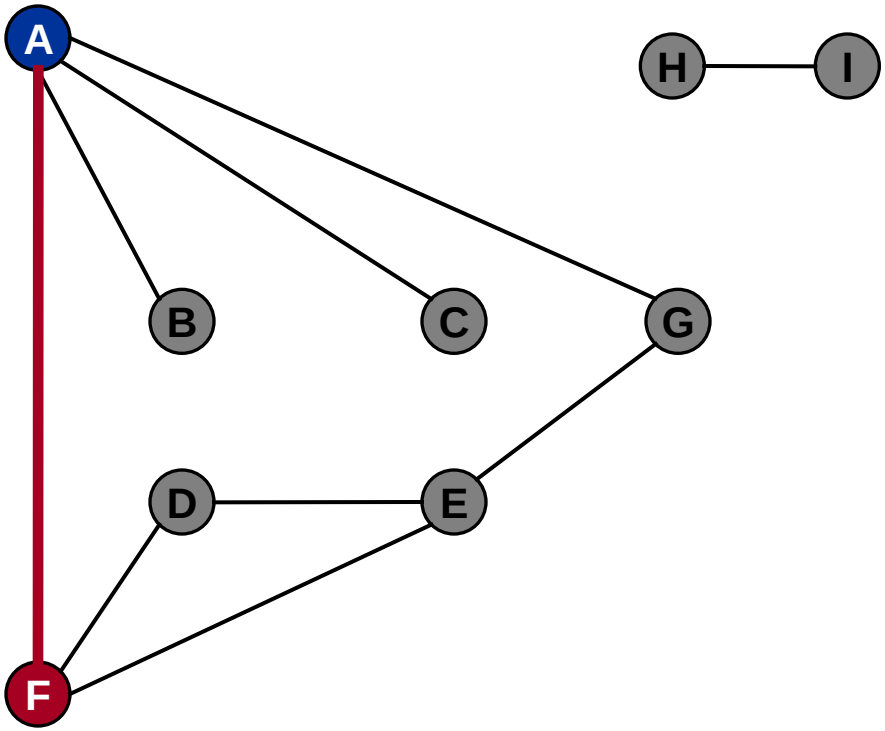
F newly discovered

Undiscovered
Marked
Active
Finished

Stack

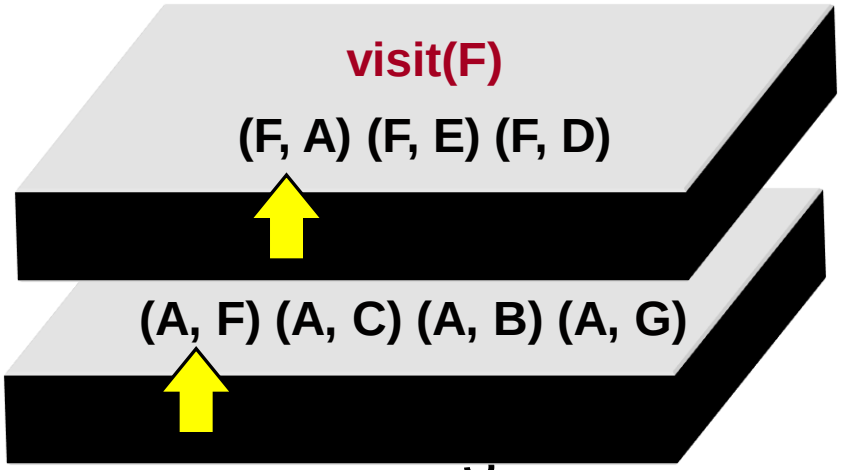


Undirected Depth First Search



A already marked

Undiscovered
Marked
Active
Finished



Stack

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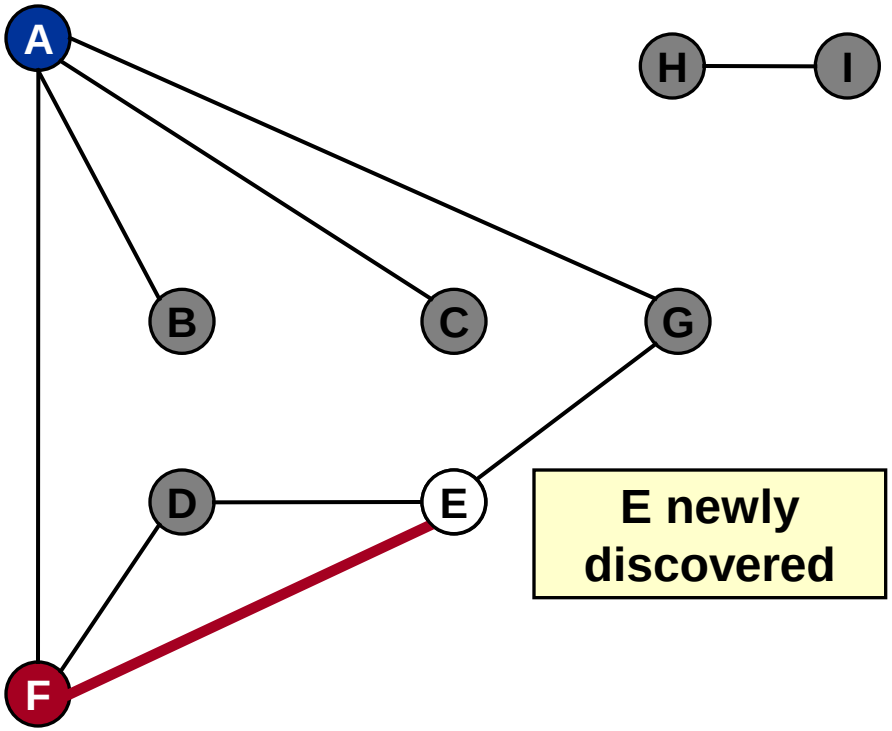

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Marked
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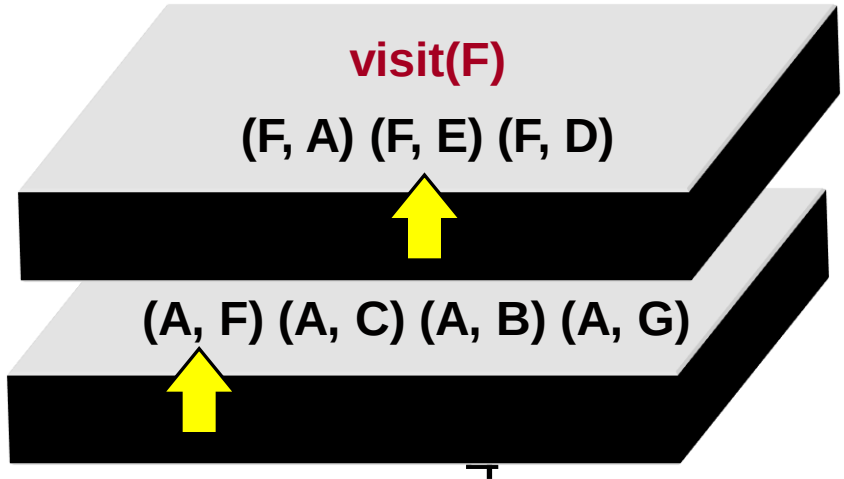

Stack

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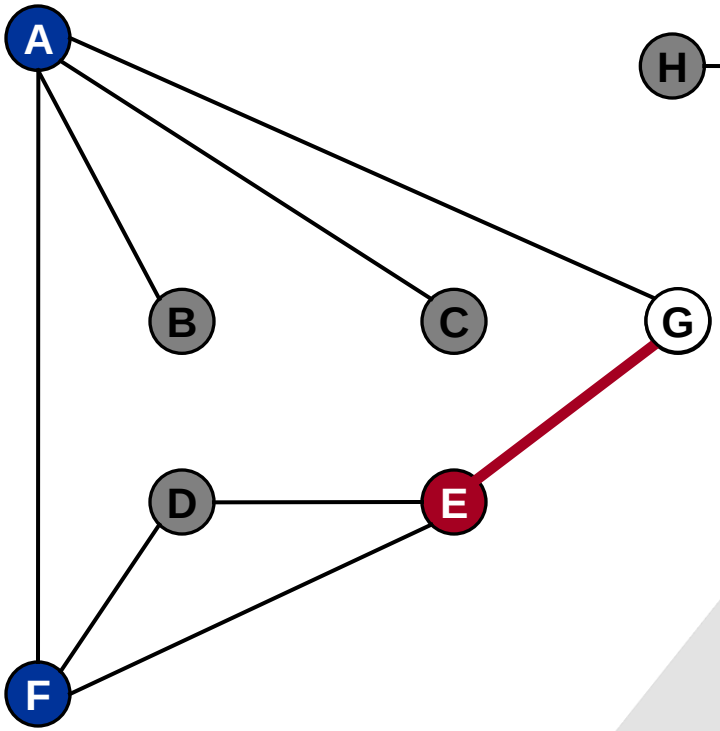
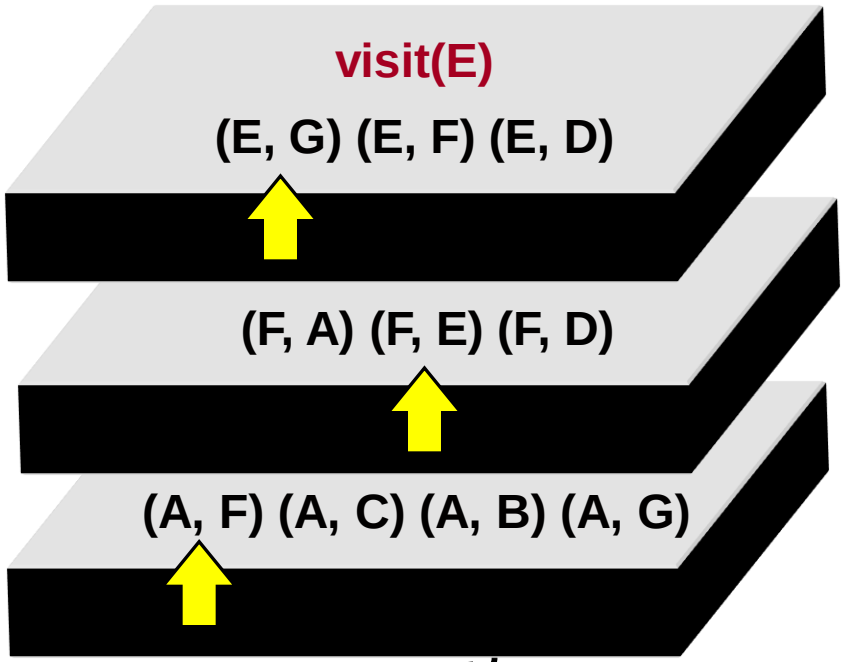


G newly discovered



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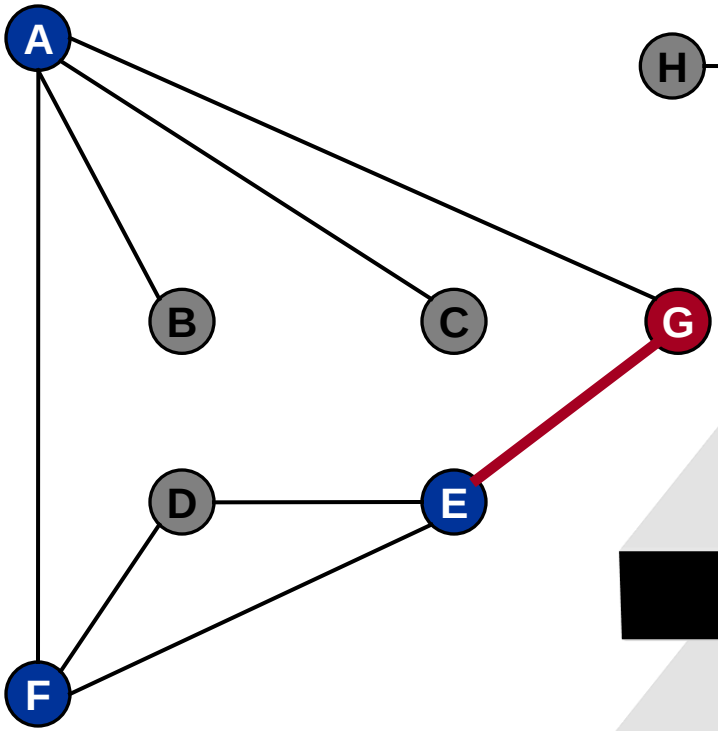
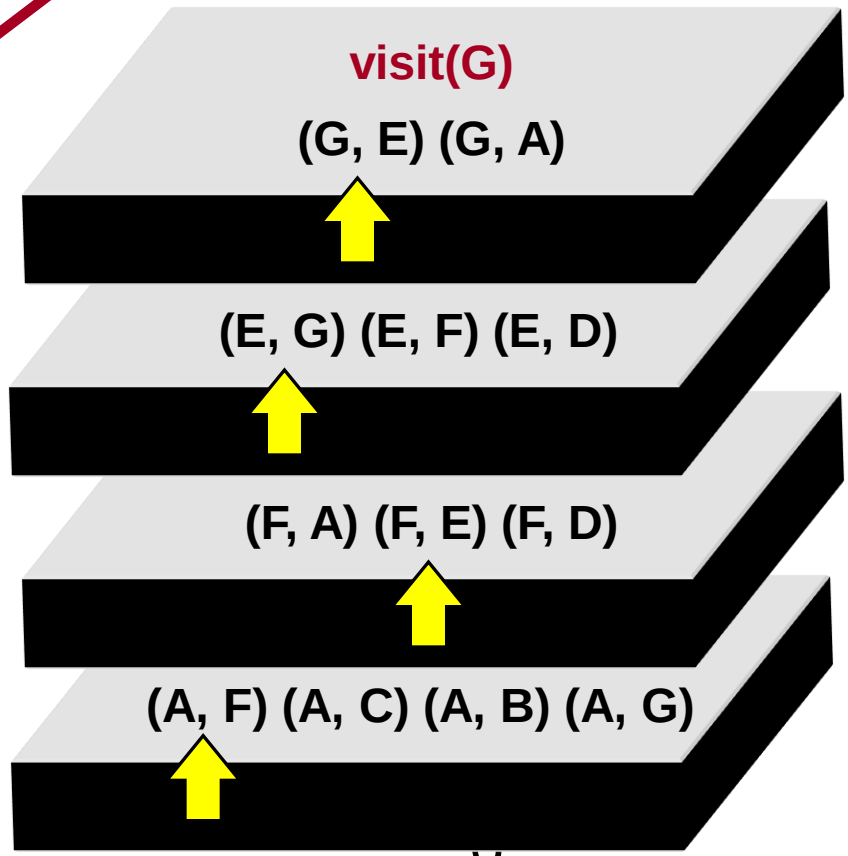


E already marked



Stack

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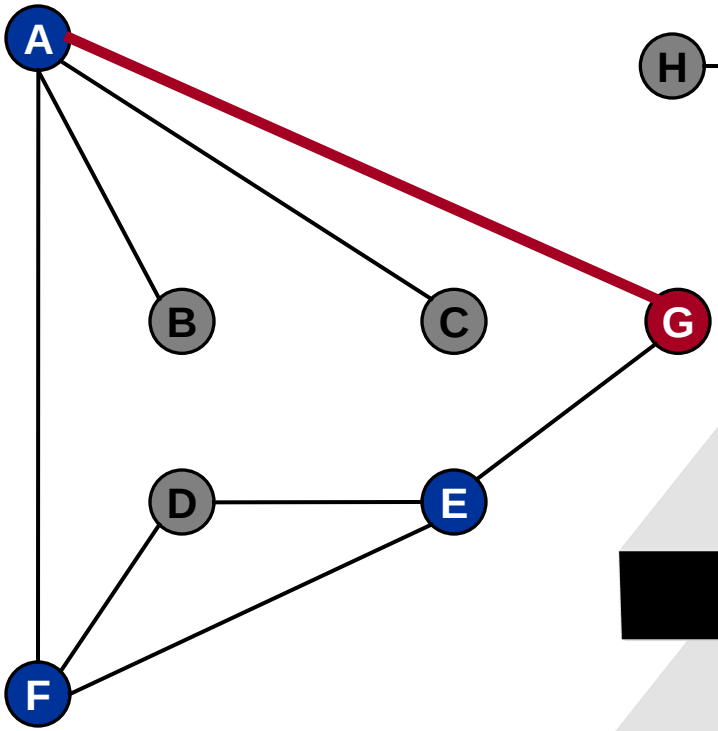
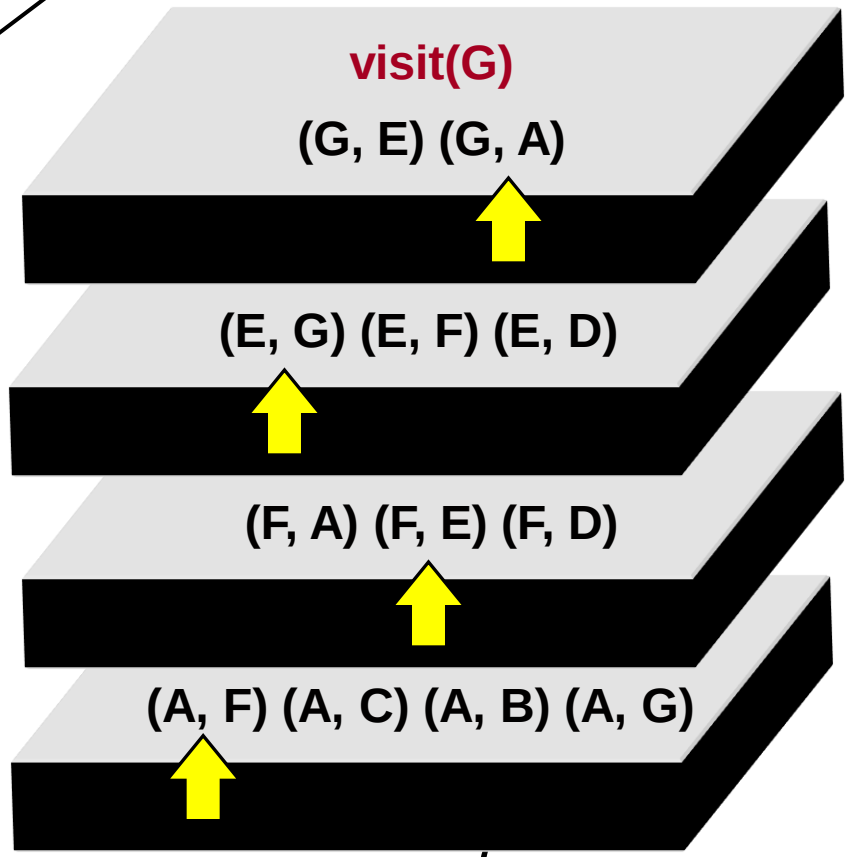


A already marked

Undiscovered
Marked
Active
Finished



Stack

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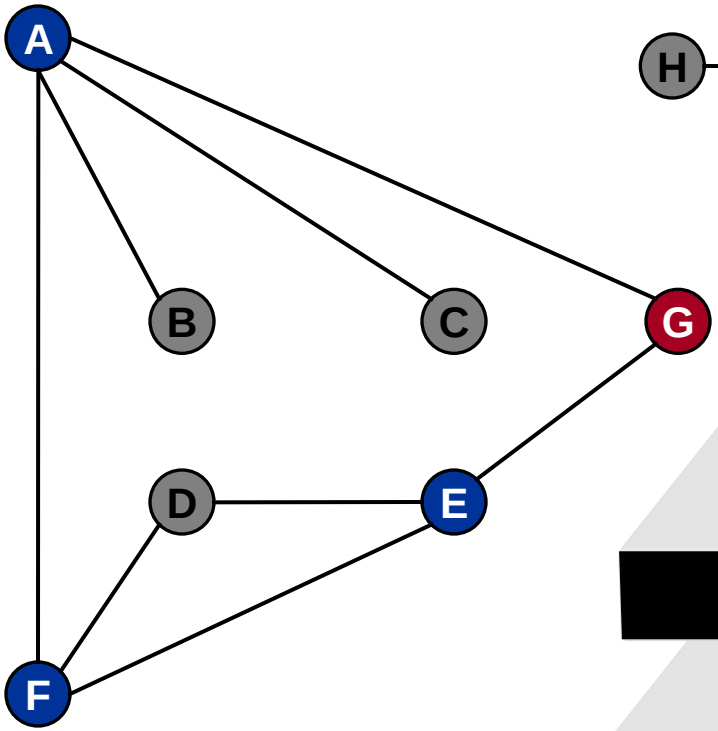
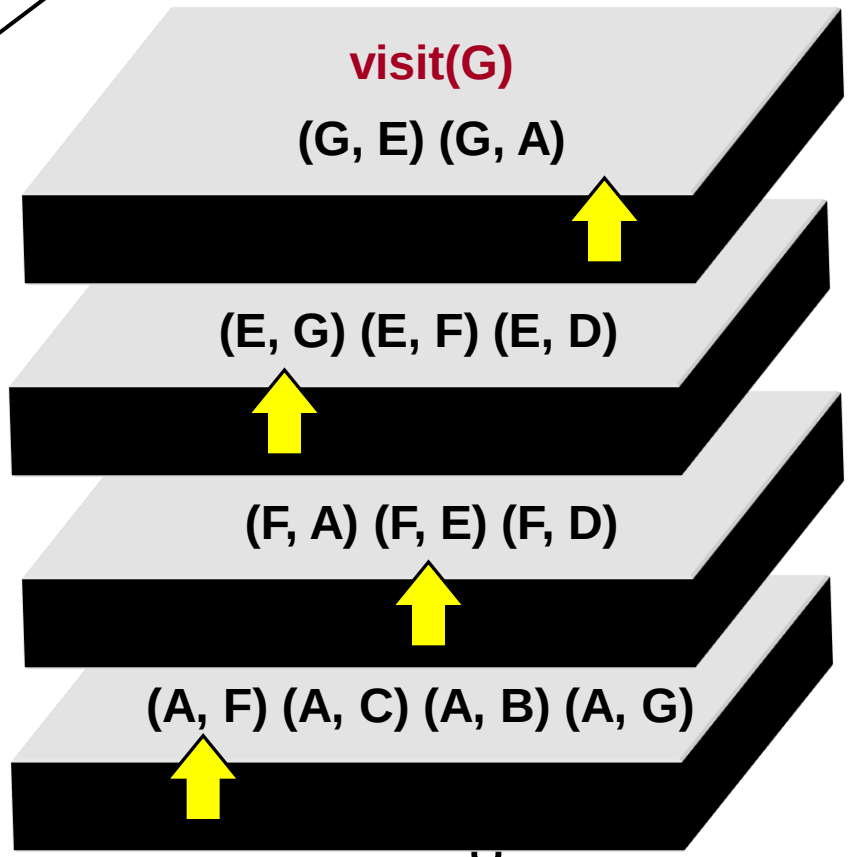


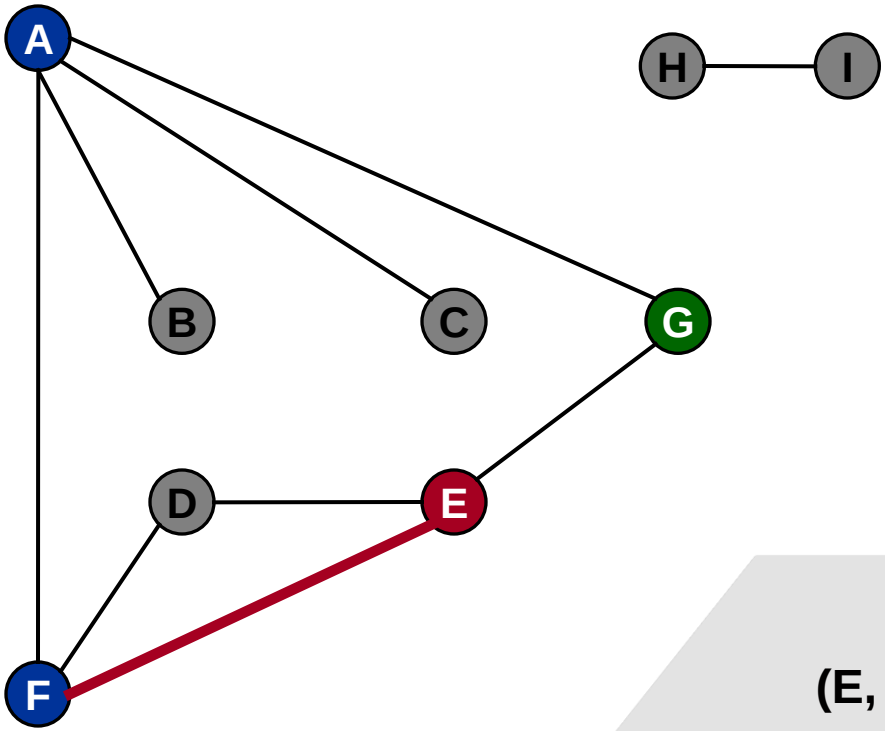
Finished G



Undiscovered
Marked
Active
Finished

Stack

Undirected Depth First Search



F already marked

Undiscovered
Marked
Active
Finished

visit(E)

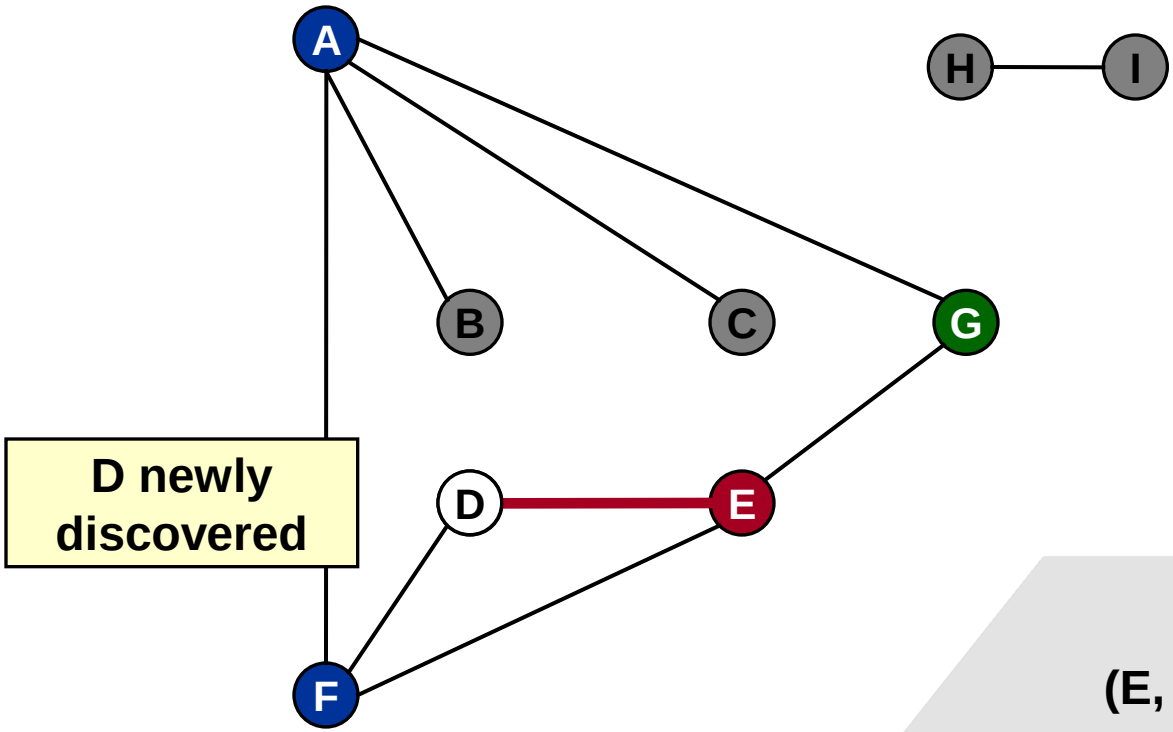
(E, G) (E, F) (E, D)

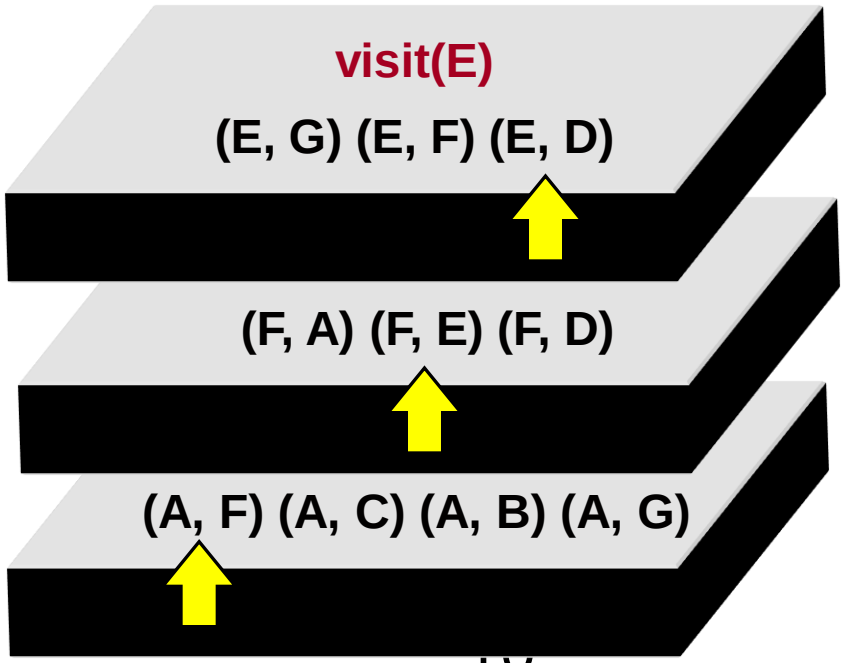
(F, A) (F, E) (F, D)

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

Stack

Undirected Depth First Search





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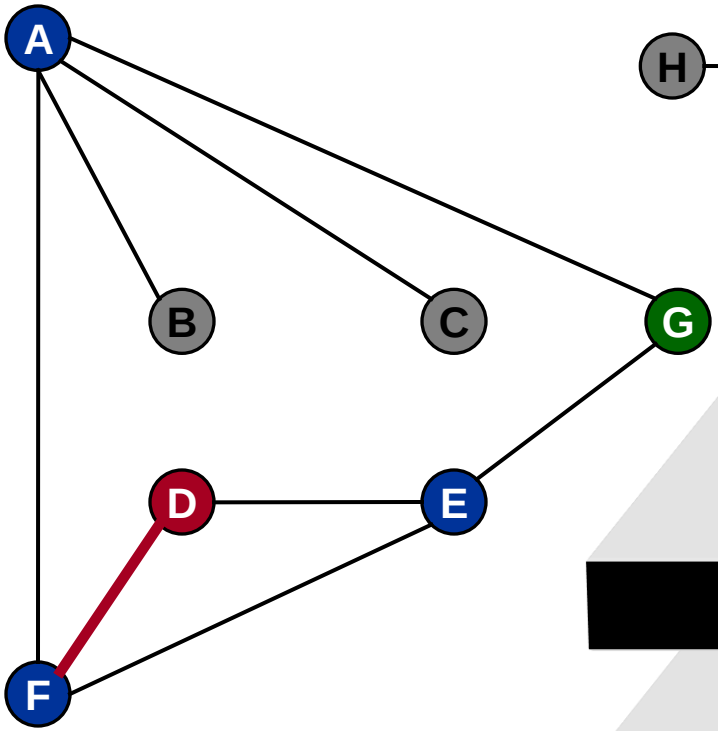
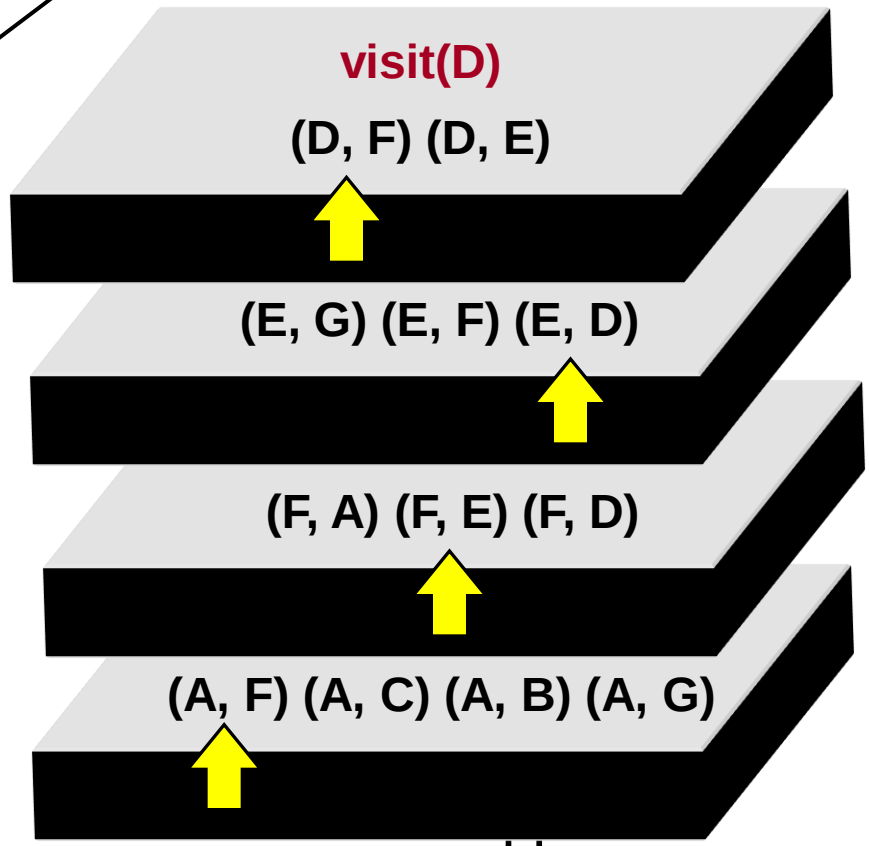


F already marked

Undiscovered
Marked
Active
Finished



Stack

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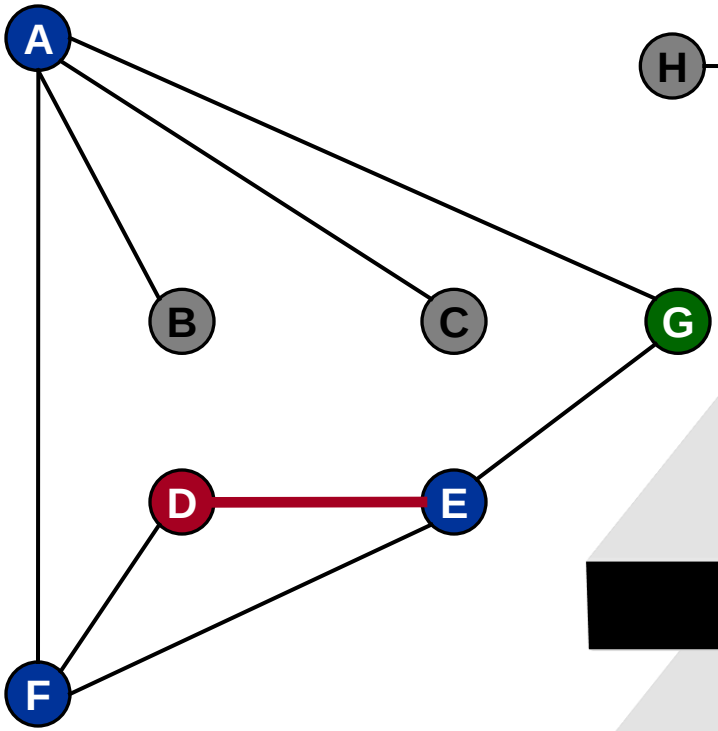
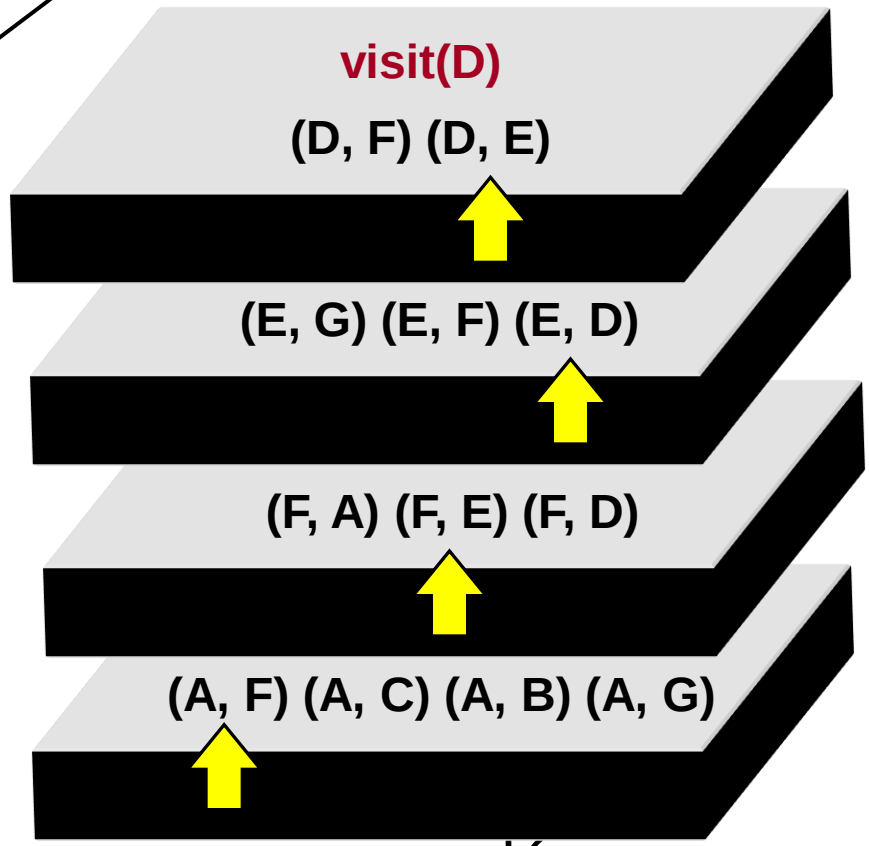


E already marked



Stack

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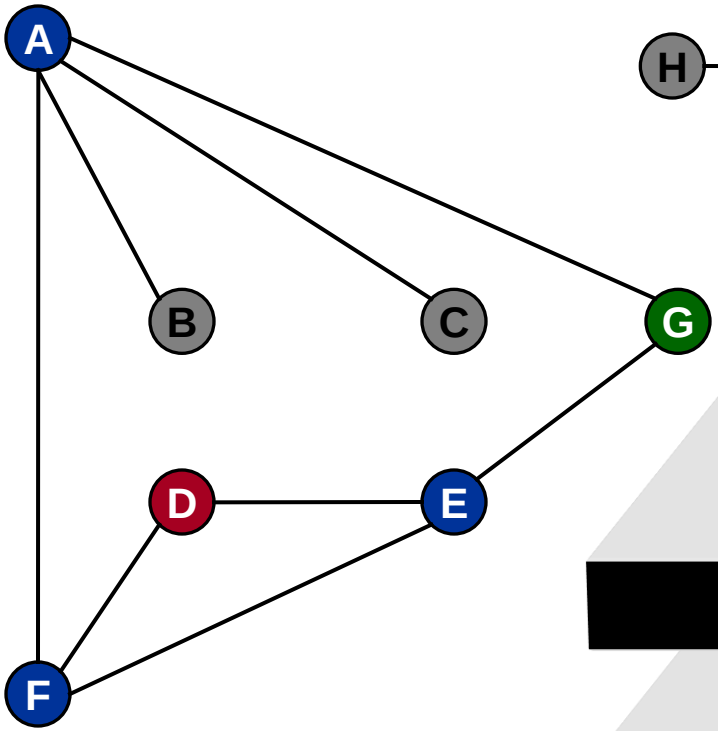


Finished D

visit(D)

(D, F) (D, E)

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

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

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

Undiscovered

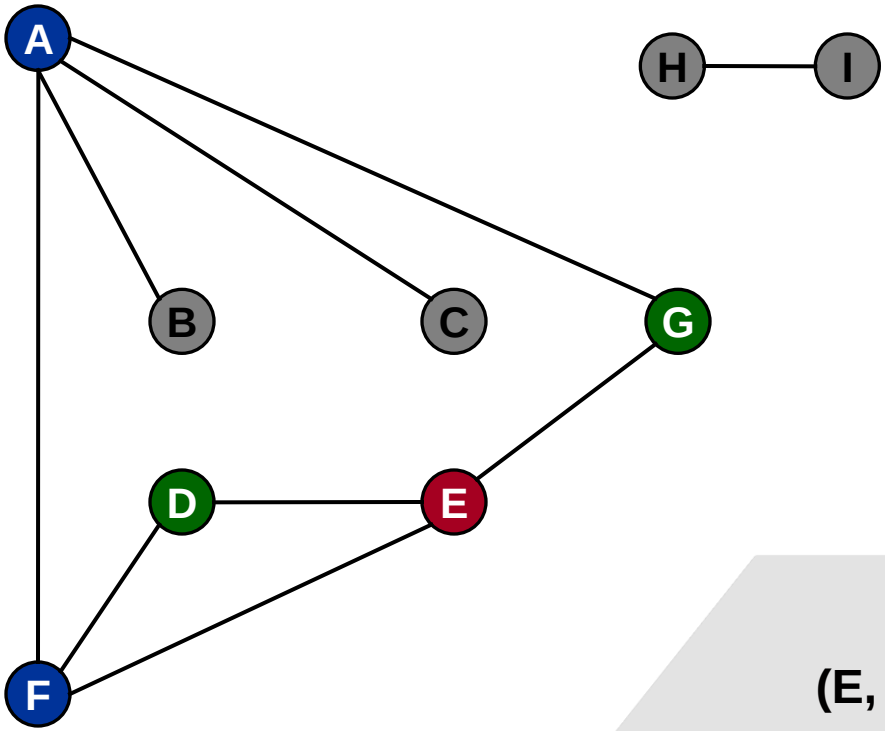
Marked

Active

Finished

Stack

Undirected Depth First Search



Finished E

visit(E)

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

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

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

Undiscovered

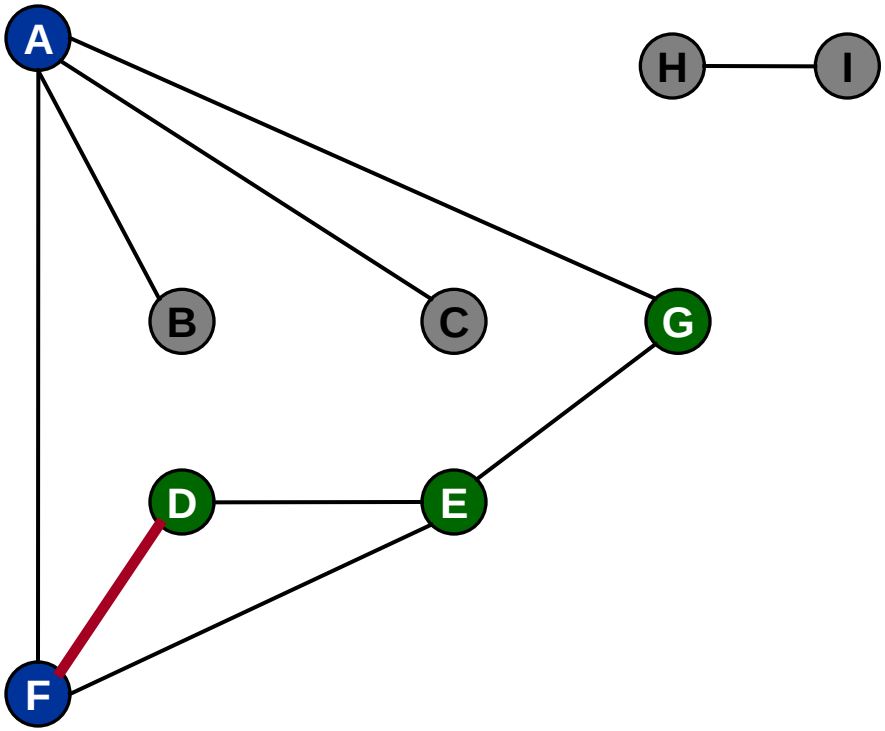
Marked

Active

Finished

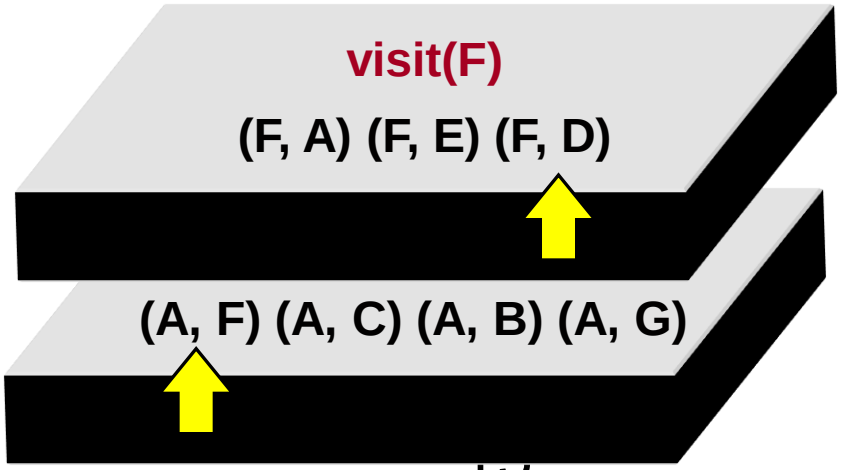
Stack

Undirected Depth First Search



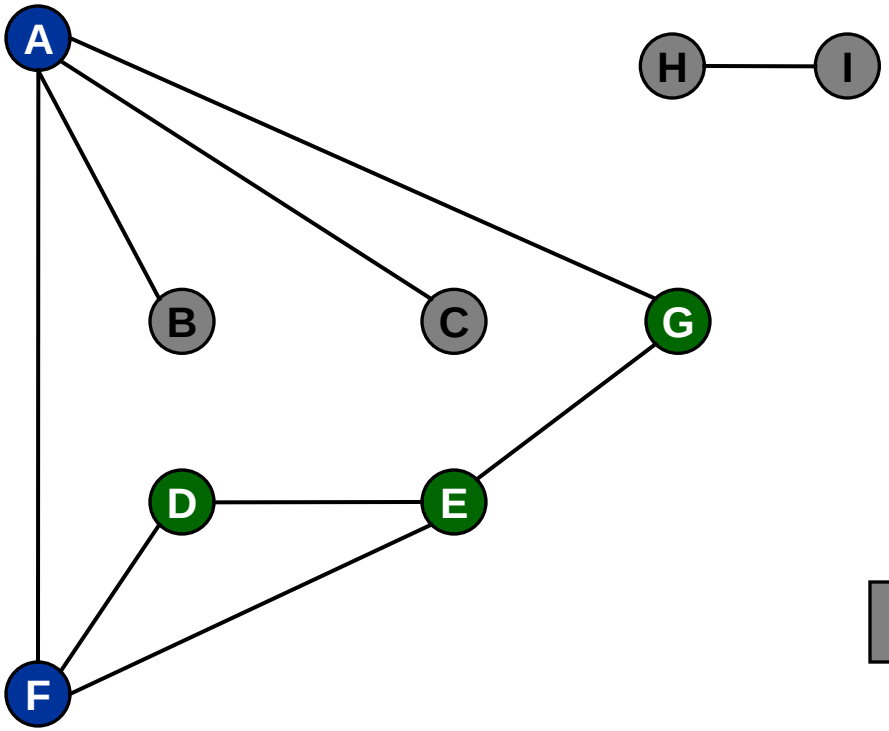
D already marked

Undiscovered
Marked
Active
Finished



Stack

Undirected Depth First Search



Finished F

visit(F)

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

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

Undiscovered

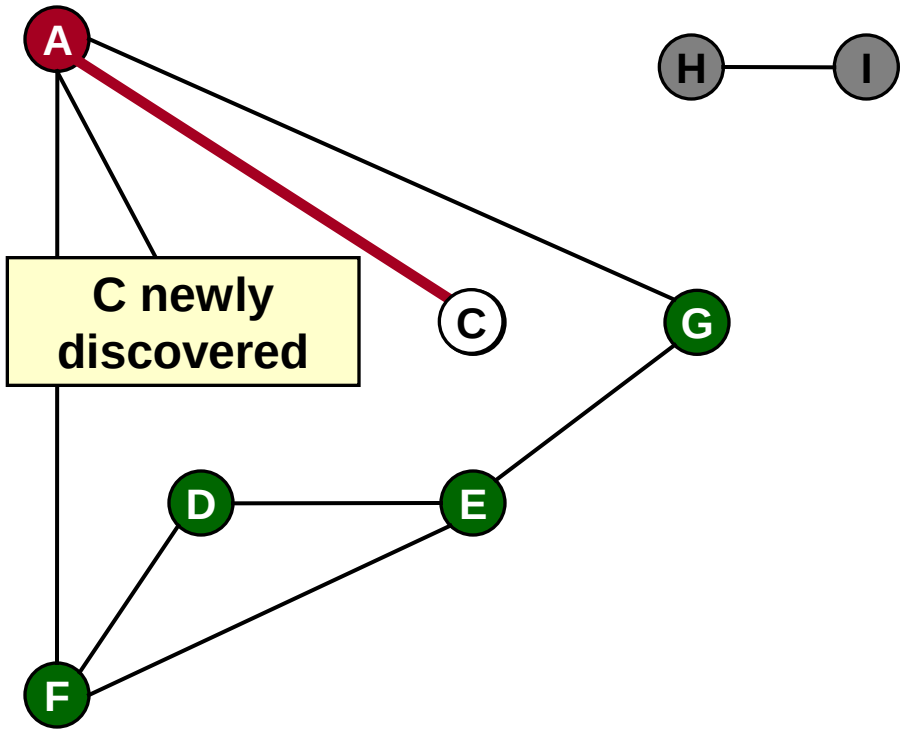
Marked

Active

Finished

Stack

Undirected Depth First Search



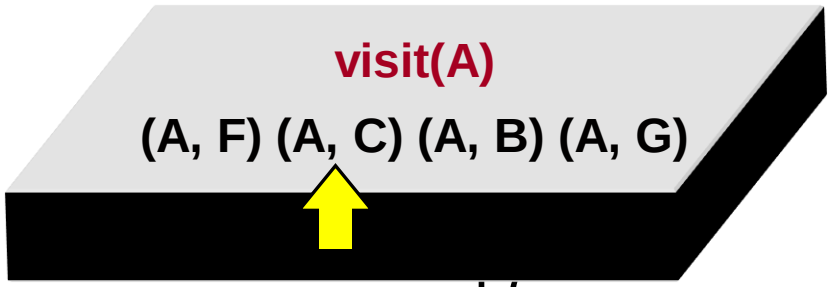
Undiscovered

Marked

Active

Finished

Stack



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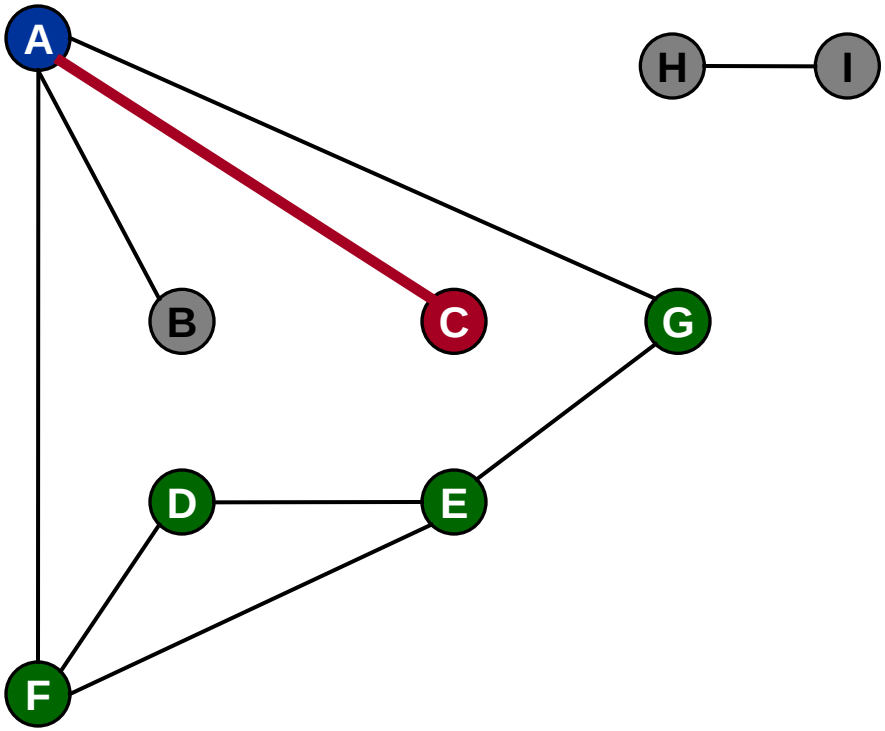
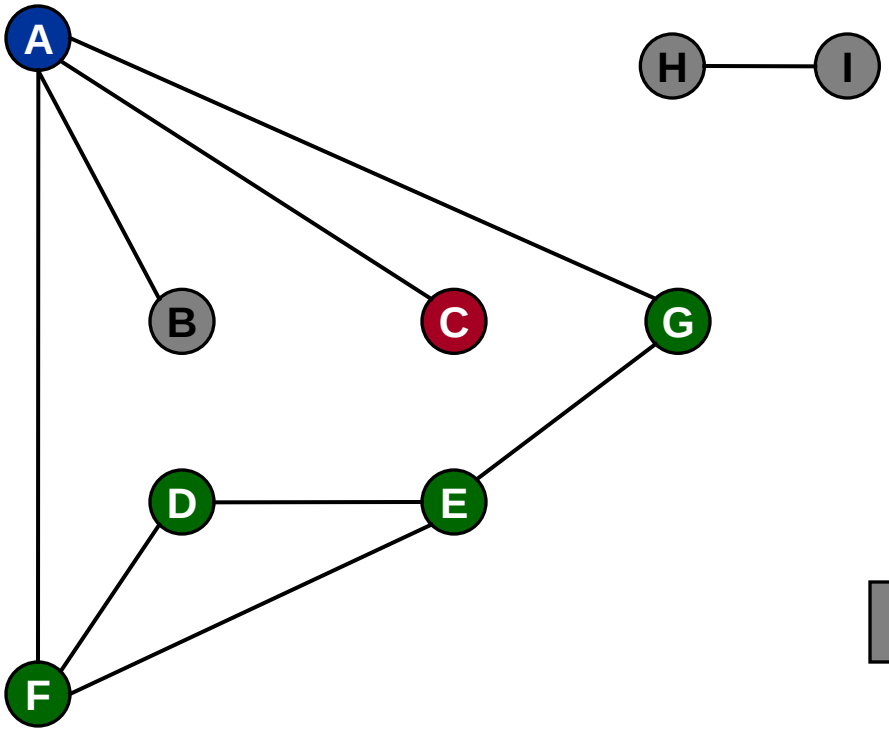


A already marked

Undiscovered
Marked
Active
Finished

Stack

Undirected Depth First Search



Finished C

visit(C)

(C, A)

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

Stack

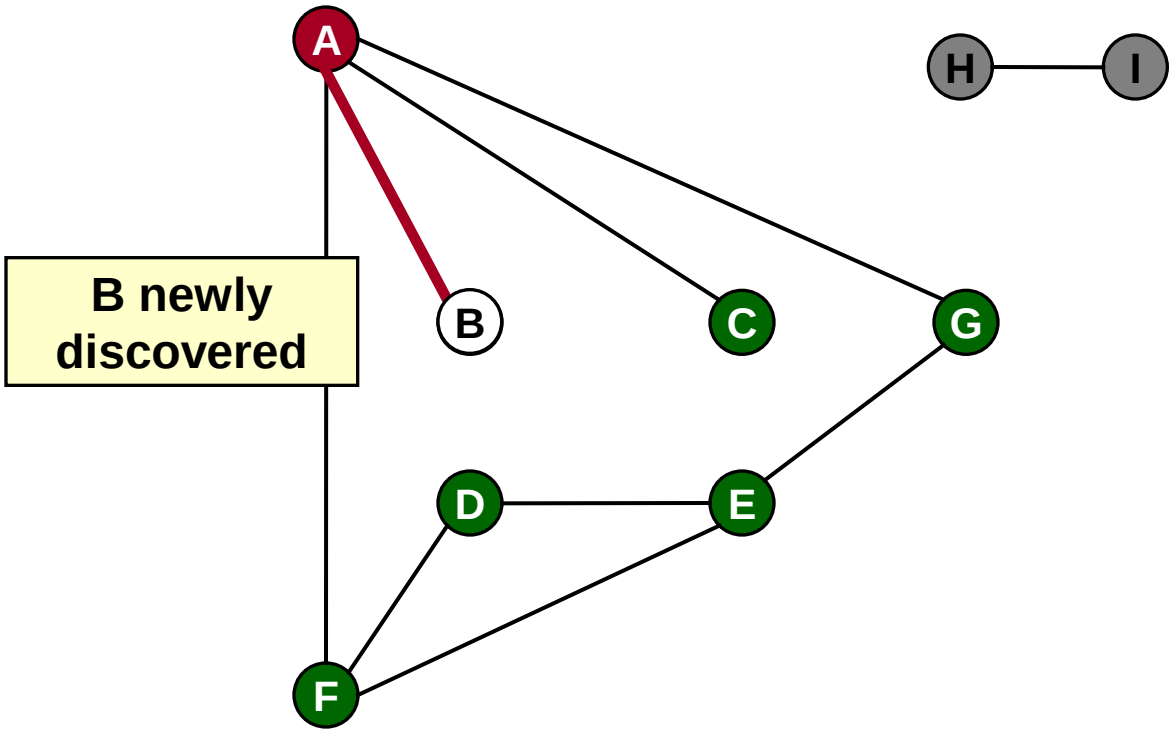
Undiscovered

Marked

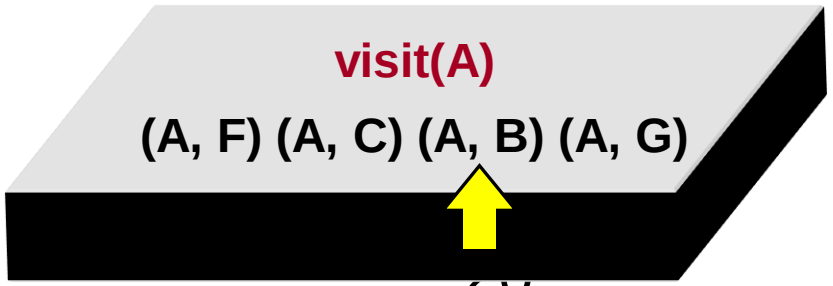
Active

Finished

Undirected Depth First Search

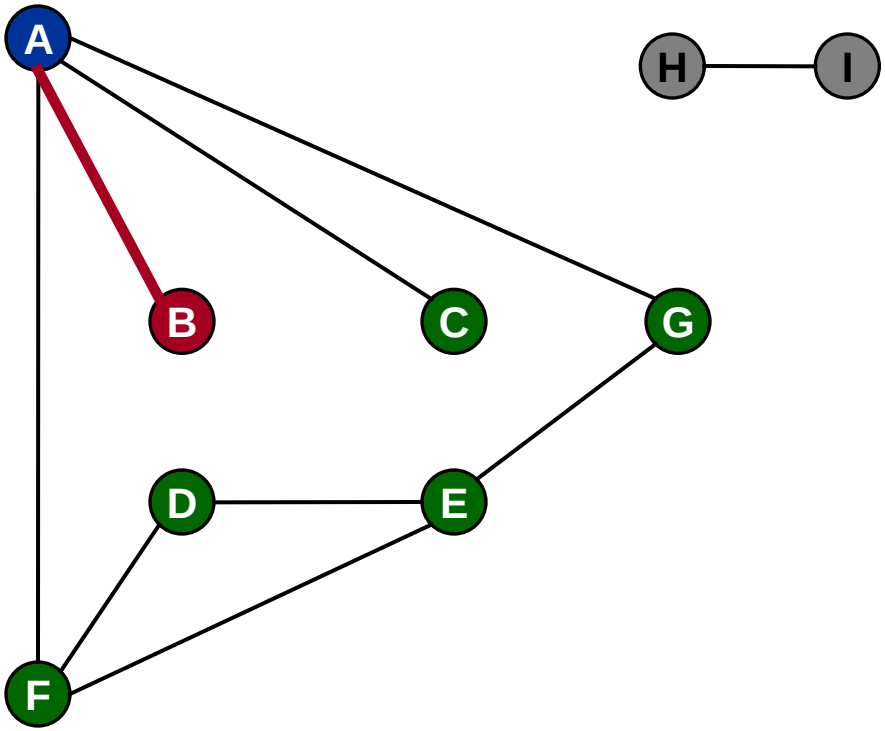


Stack



Undirected Depth First Search

A already marked



Undiscovered
Marked
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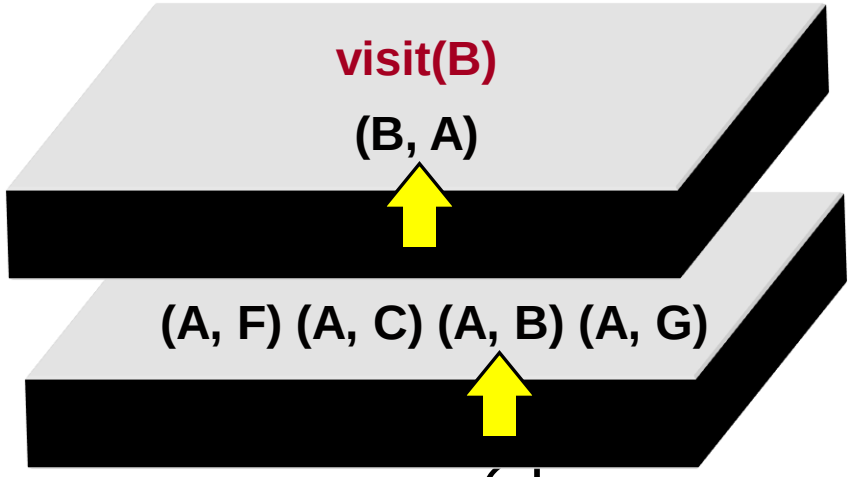

Stack

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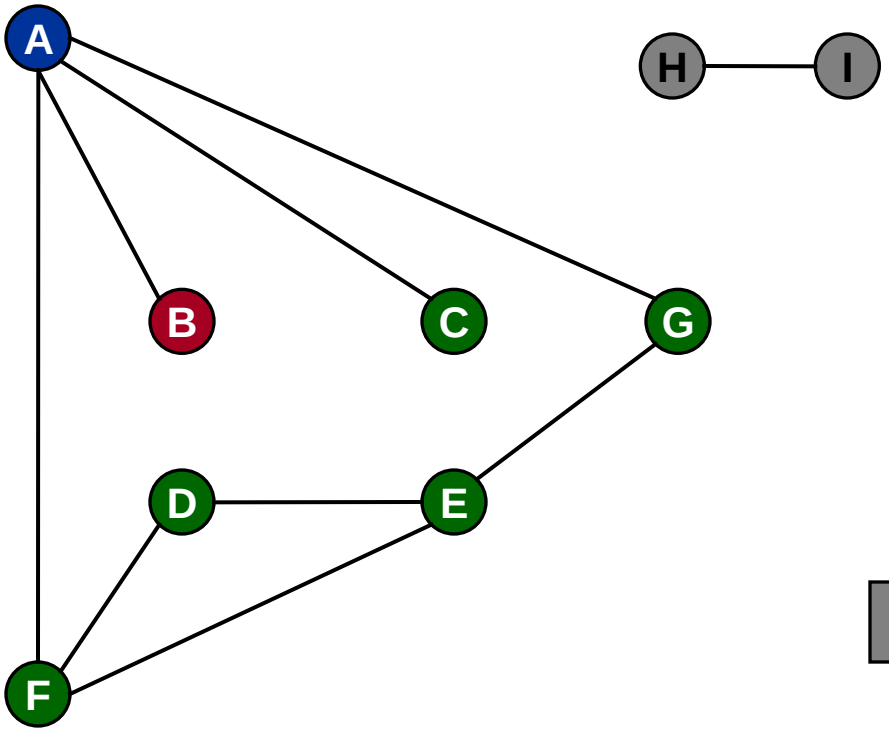


Finished B

visit(B)

(B, A)

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

Stack

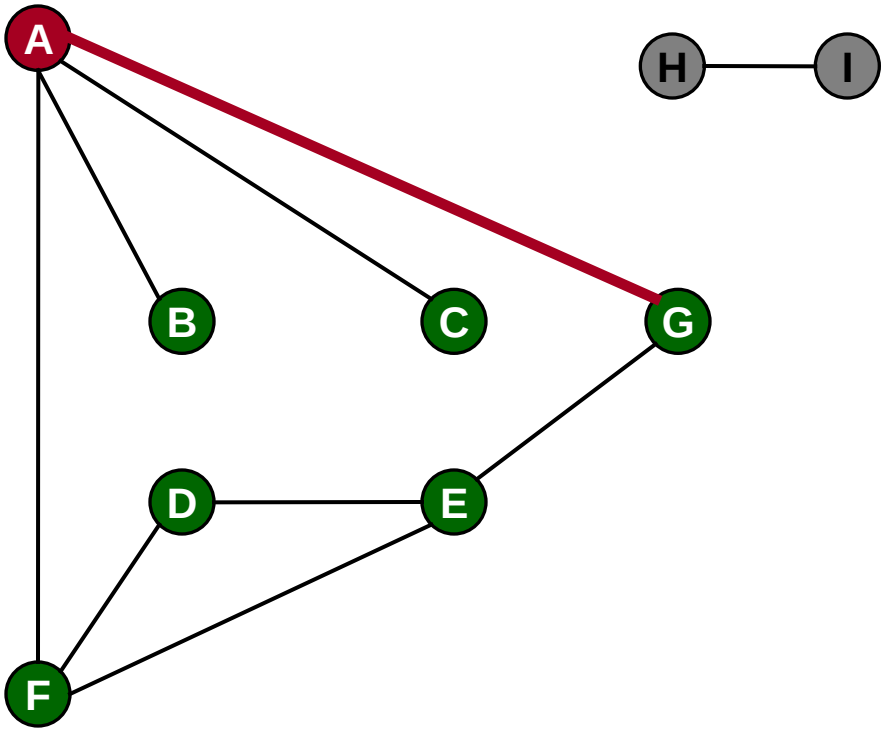
Undiscovered

Marked

Active

Finished

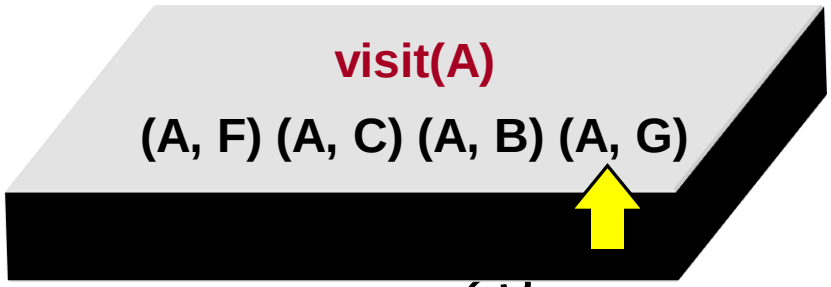
Undirected Depth First Search



G already finished

Undiscovered
Marked
Active
Finished

Stack



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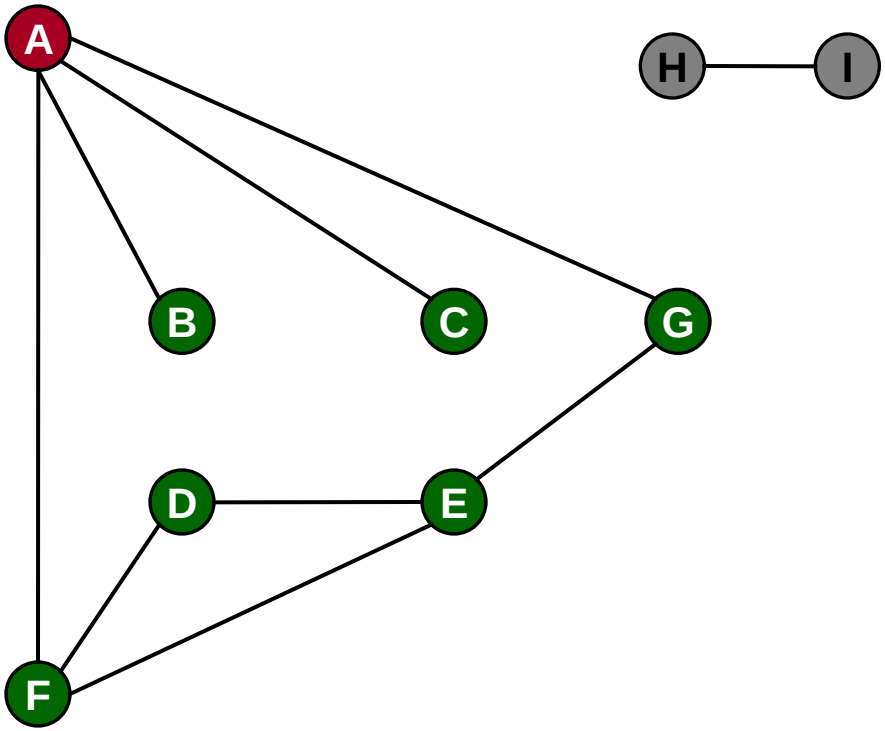


Undiscovered

Marked

Active

Finished

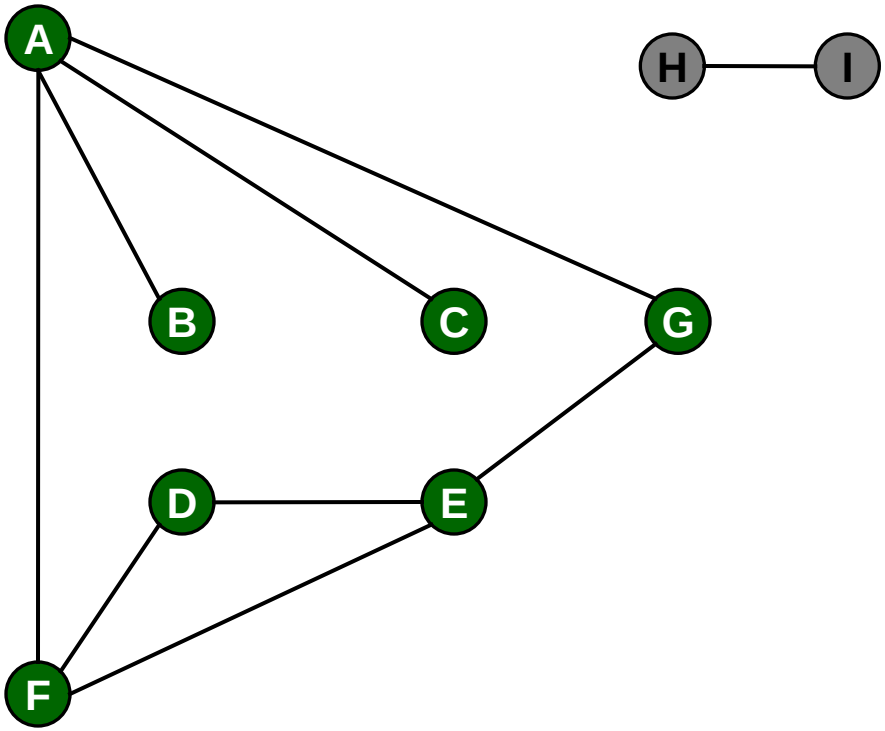
Finished A

visit(A)

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

Stack

Undirected Depth First Search



Undiscovered

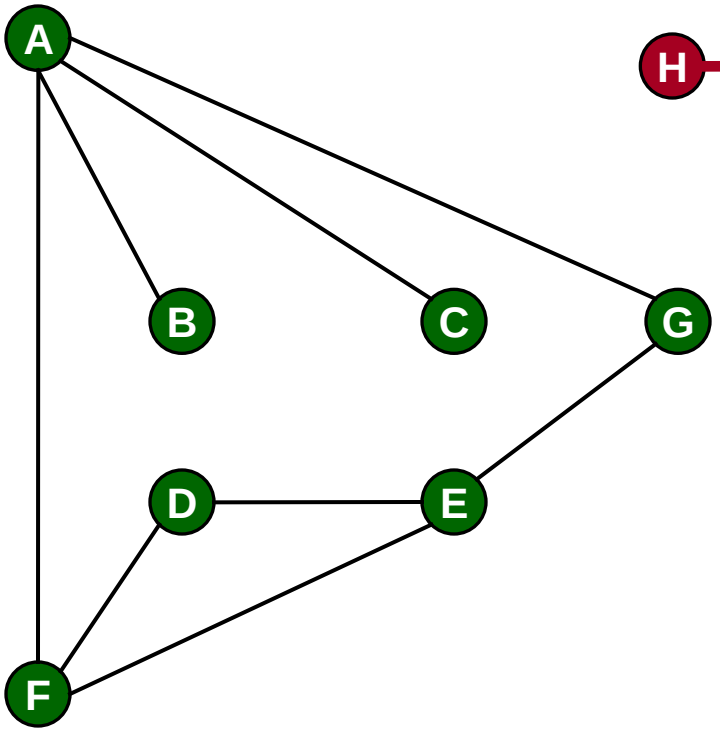
Marked

Active

Finished

Stack

Undirected Depth First Search



I newly discovered

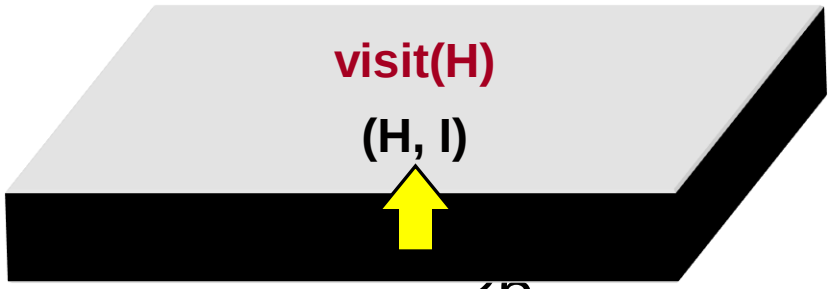
Undiscovered

Marked

Active

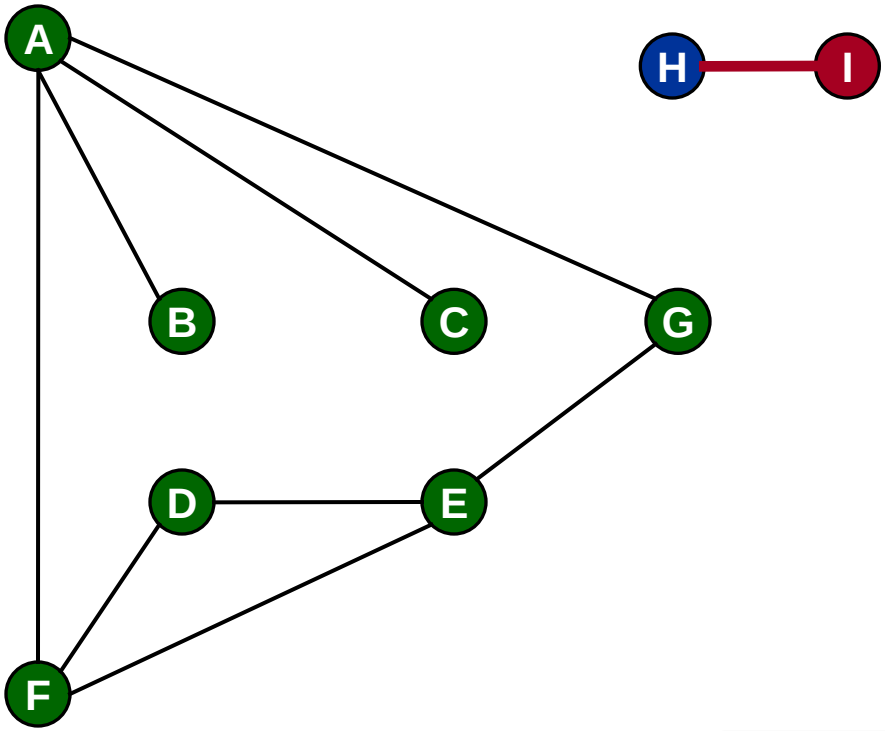
Finished

Stack



Undirected Depth First Search

H already marked



Undiscovered
Marked
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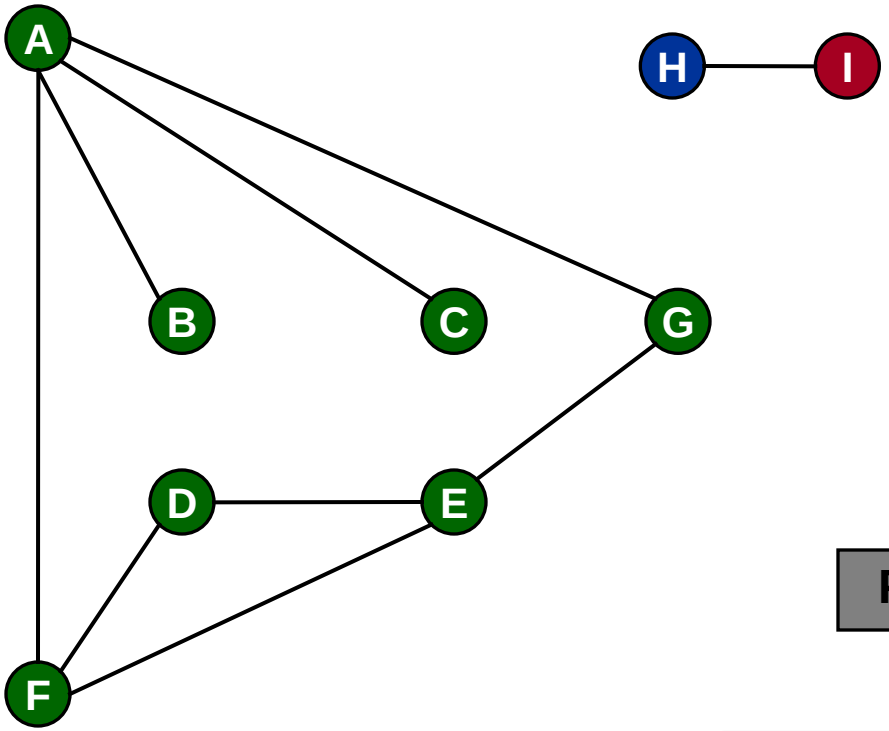
Finished

Stack

Undirected Depth First Search



Finished I

Undiscovered

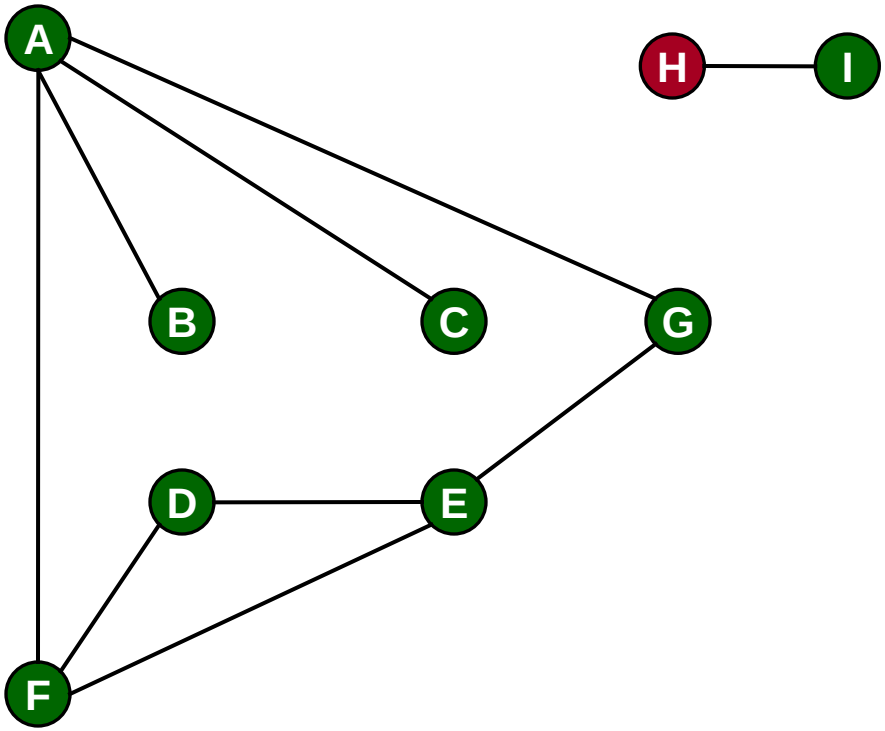
Marked

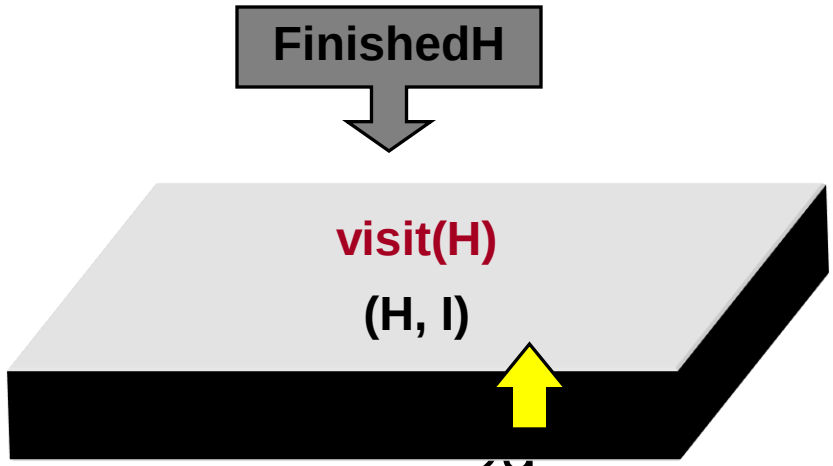
Active

Finished

Stack

Undirected Depth First Search





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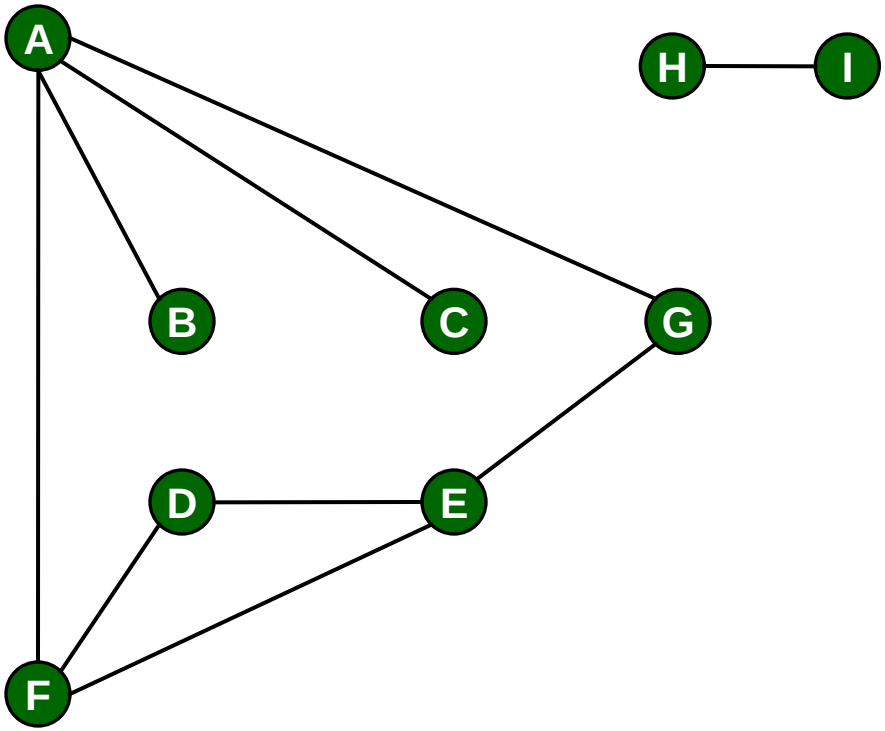

Undiscovered

Marked

Active

Finished

Stack