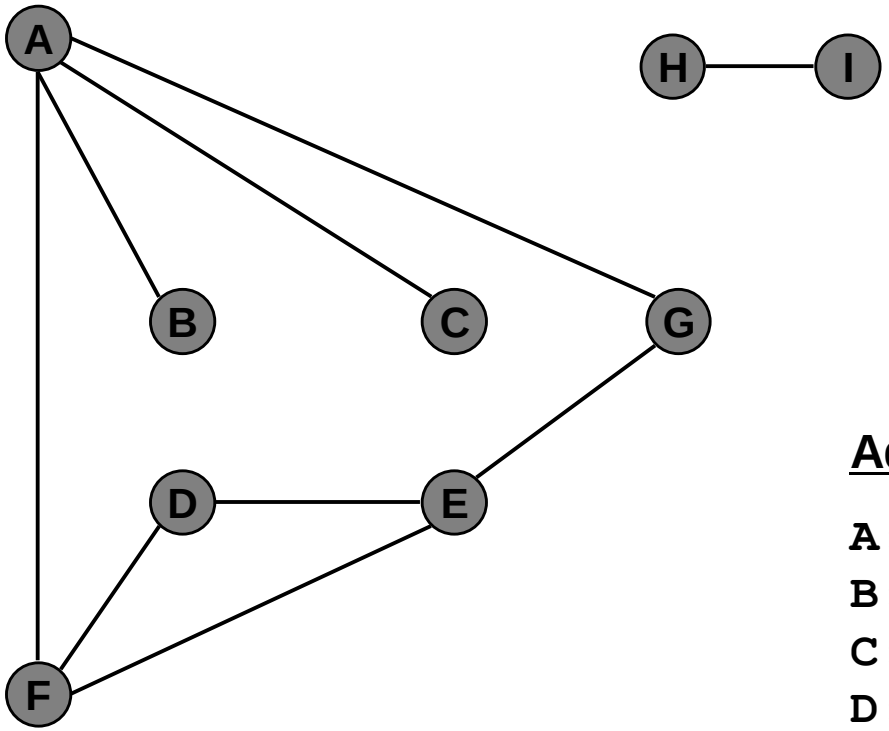
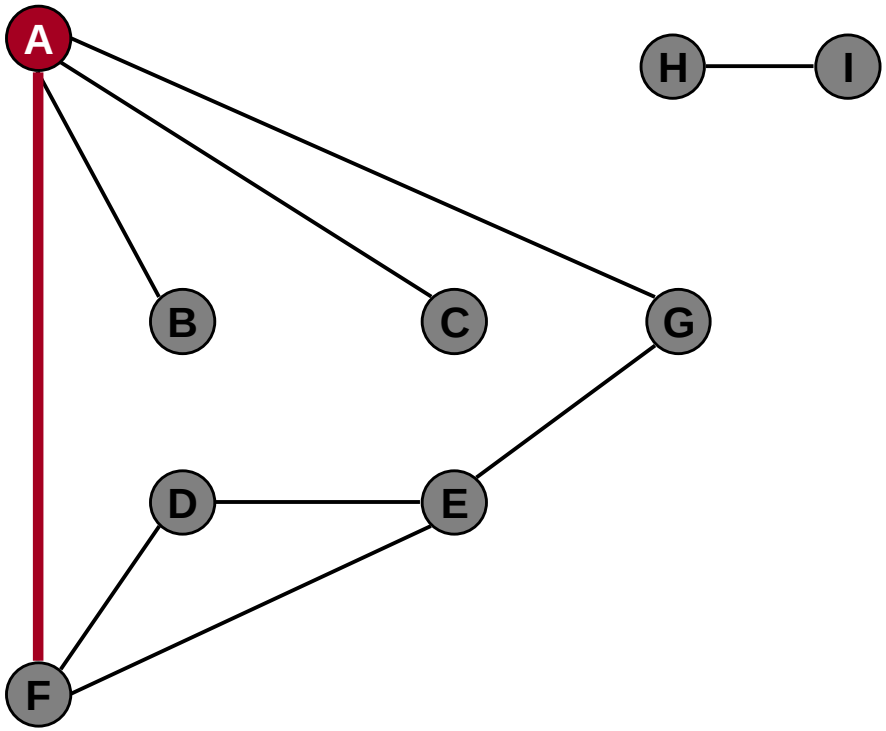
Undirected Depth First Search



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
```

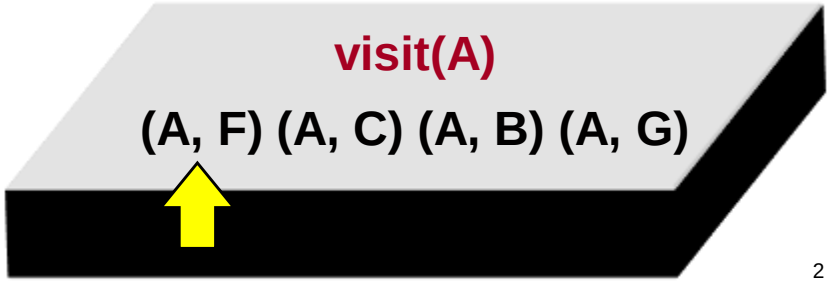
Undirected Depth First Search



F newly discovered

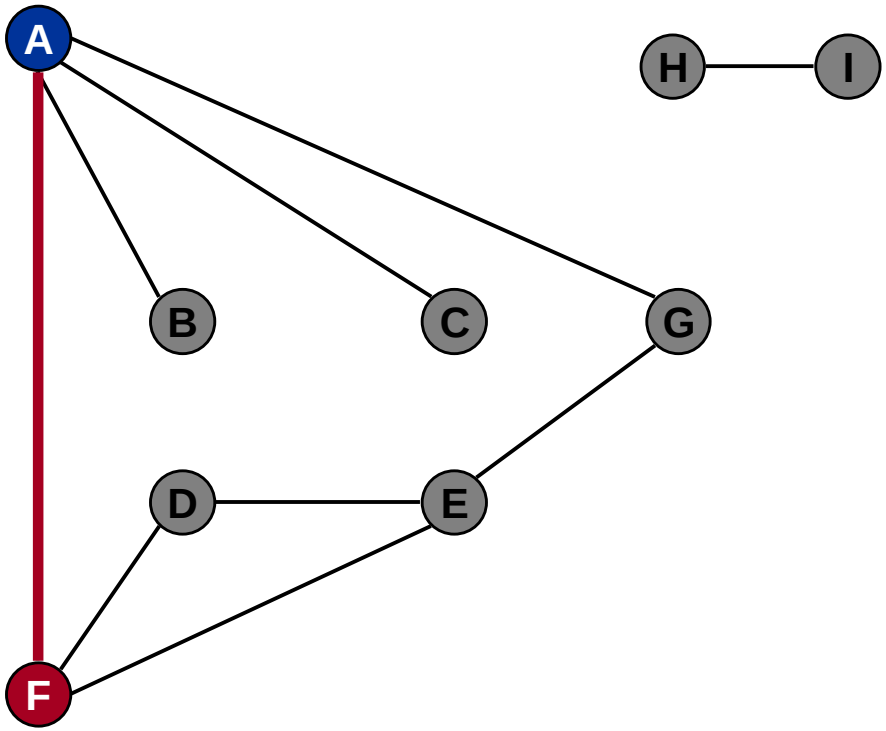
Undiscovered
Marked
Active
Finished

Stack



Undirected Depth First Search

A already marked



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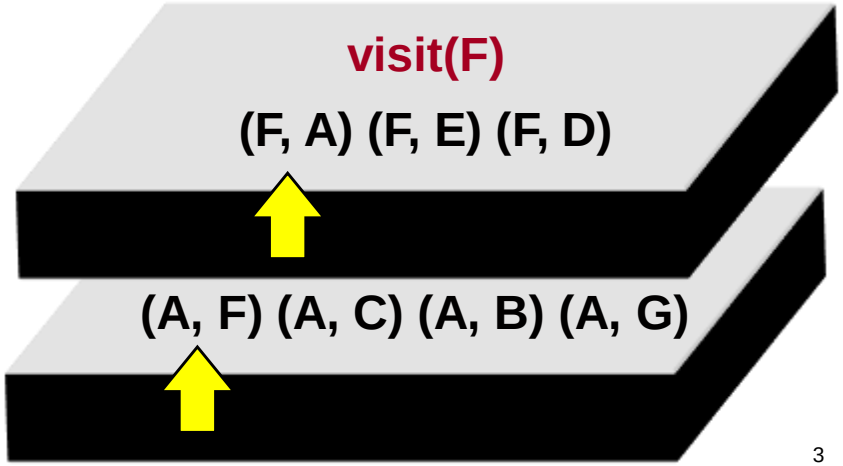

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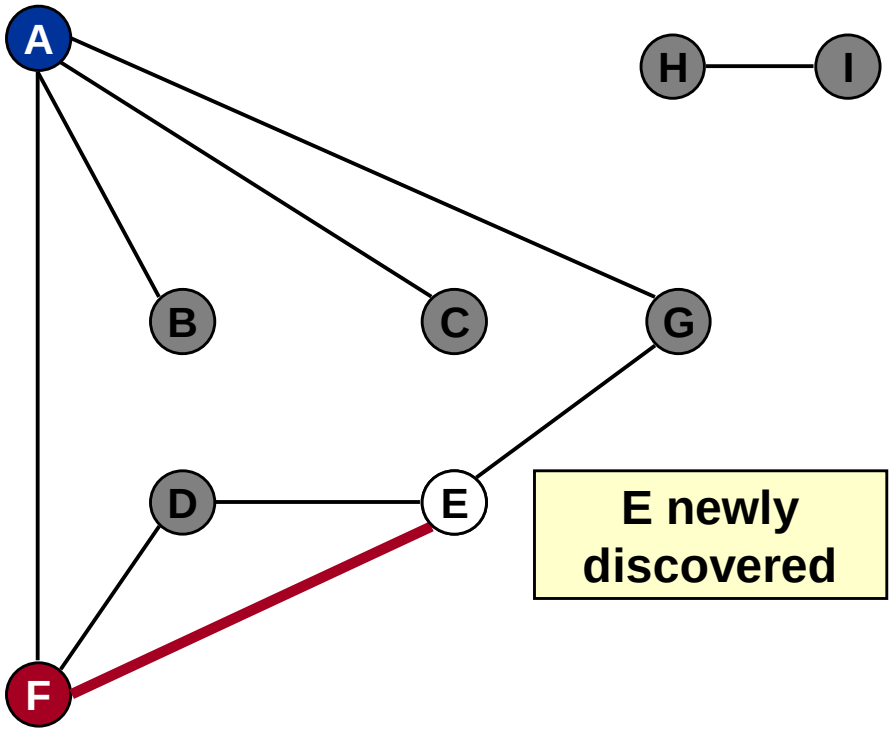

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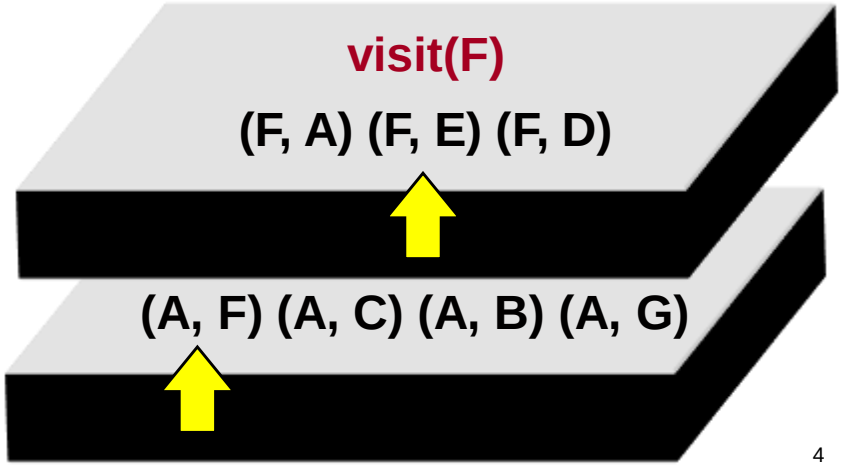

Stack

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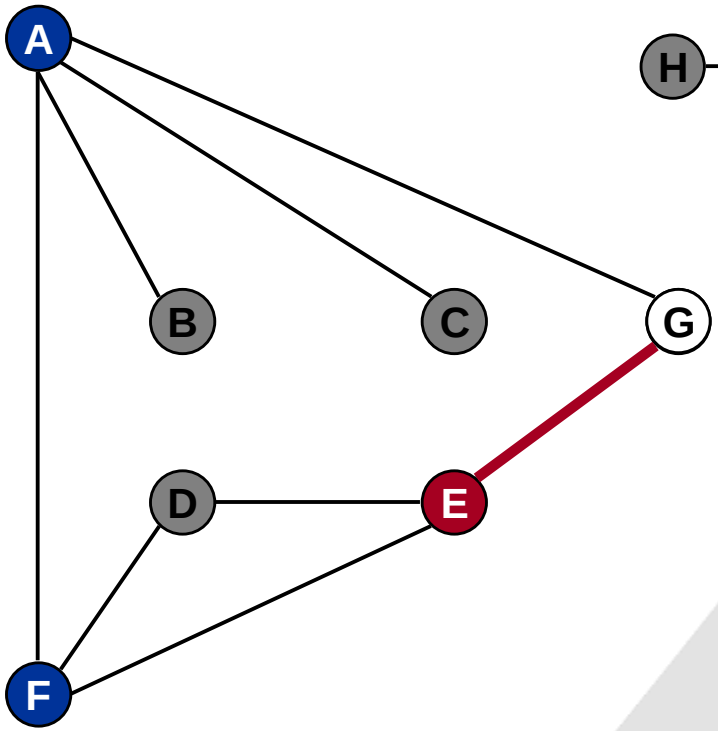
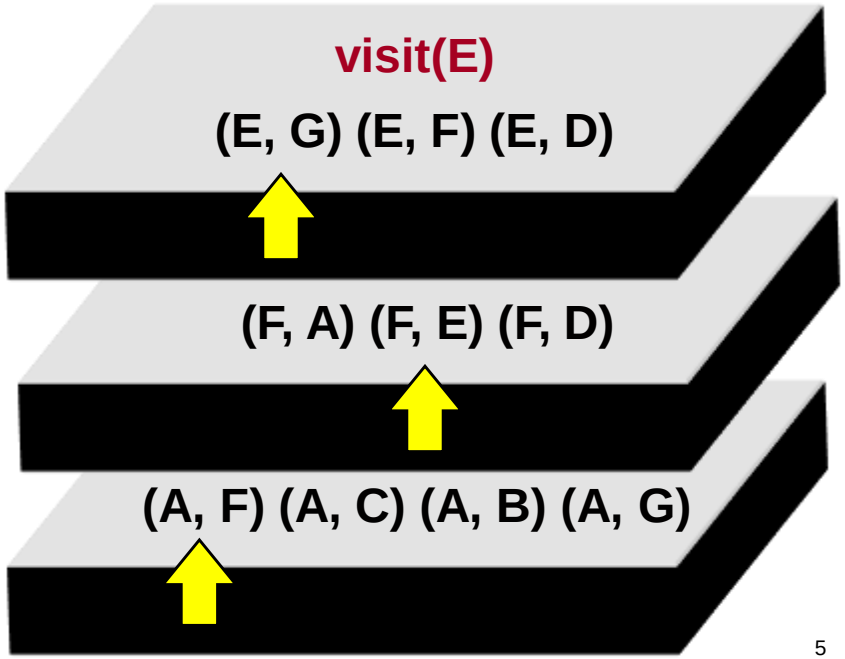


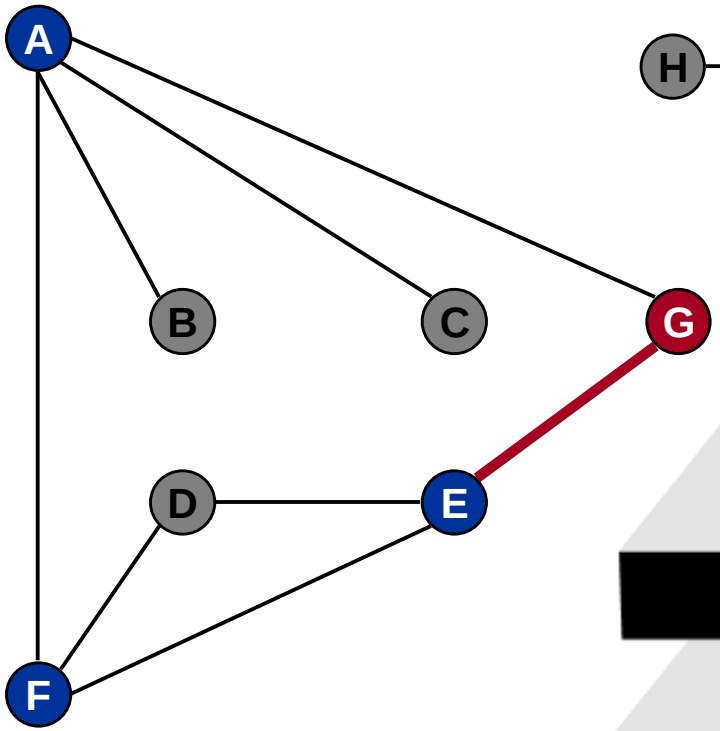
G newly discovered



Stack

Undirected Depth First Search

E already marked



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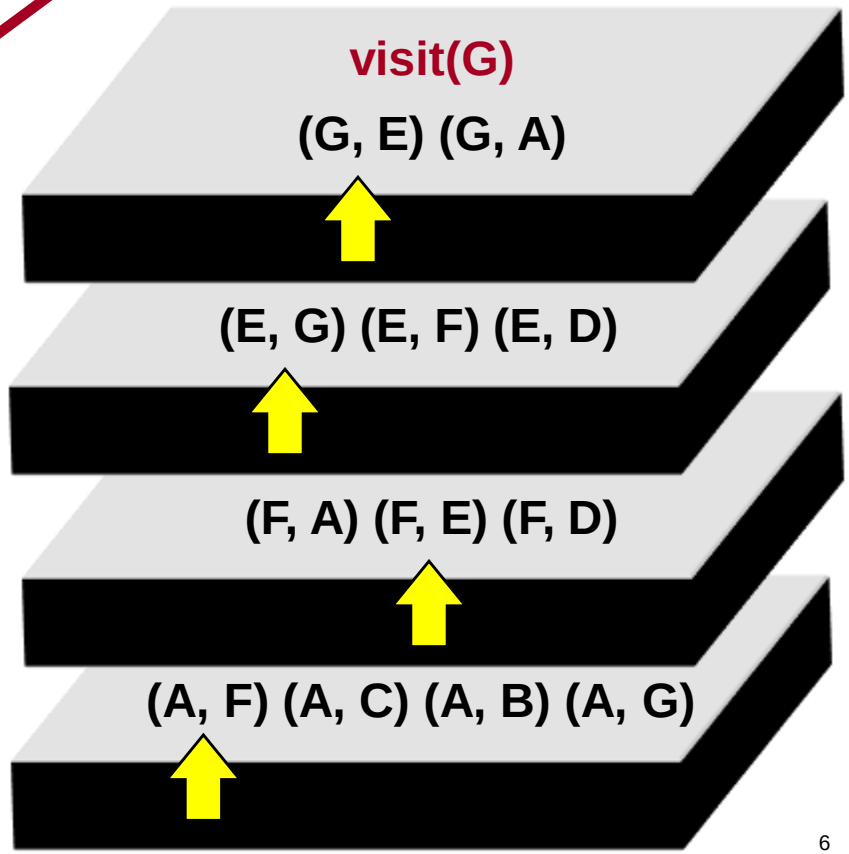

Stack

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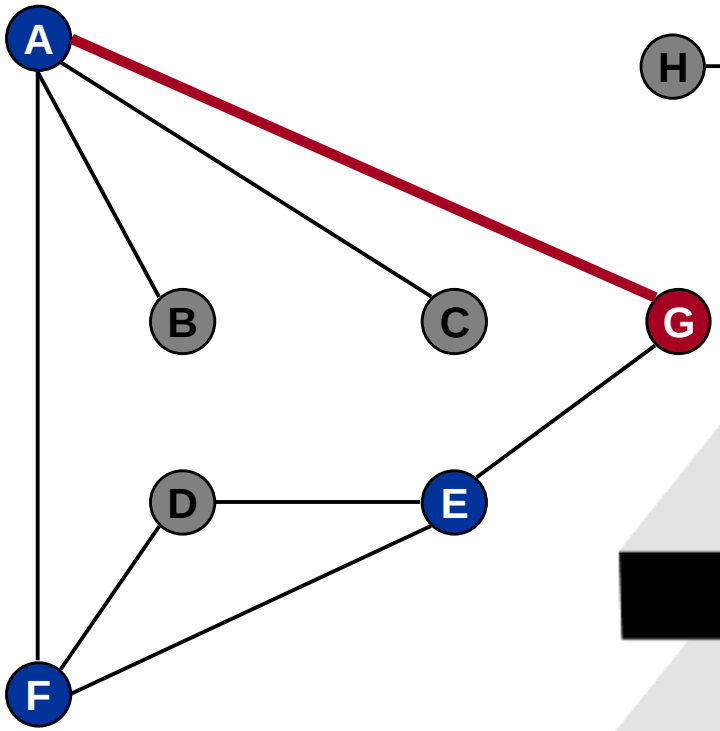
A already marked



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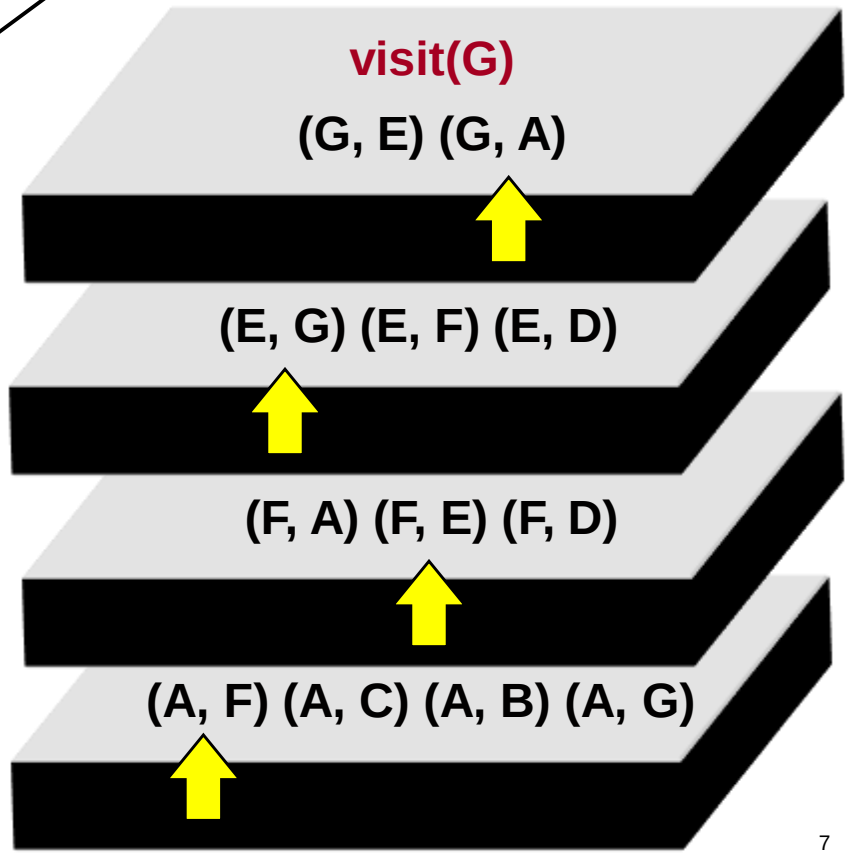
Marked
Active
Finished



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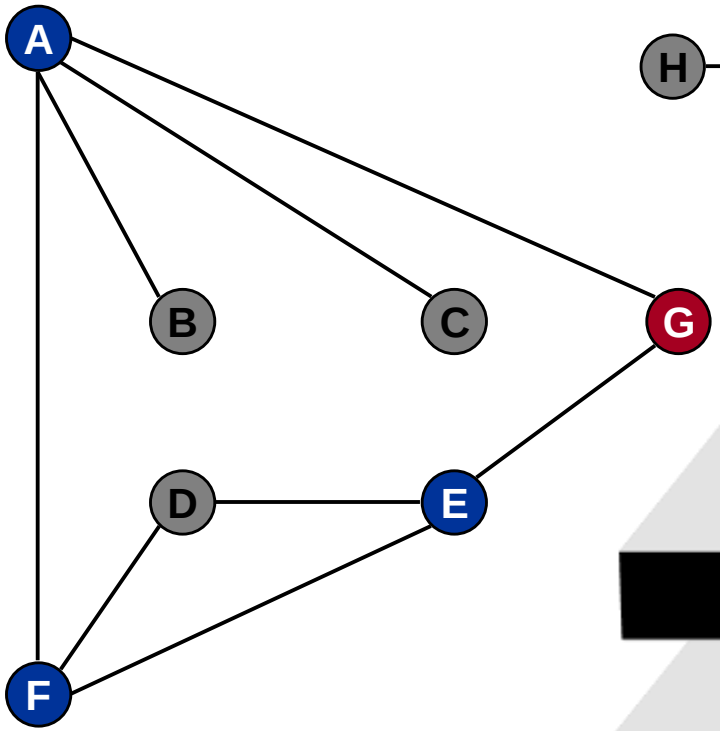
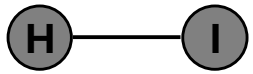
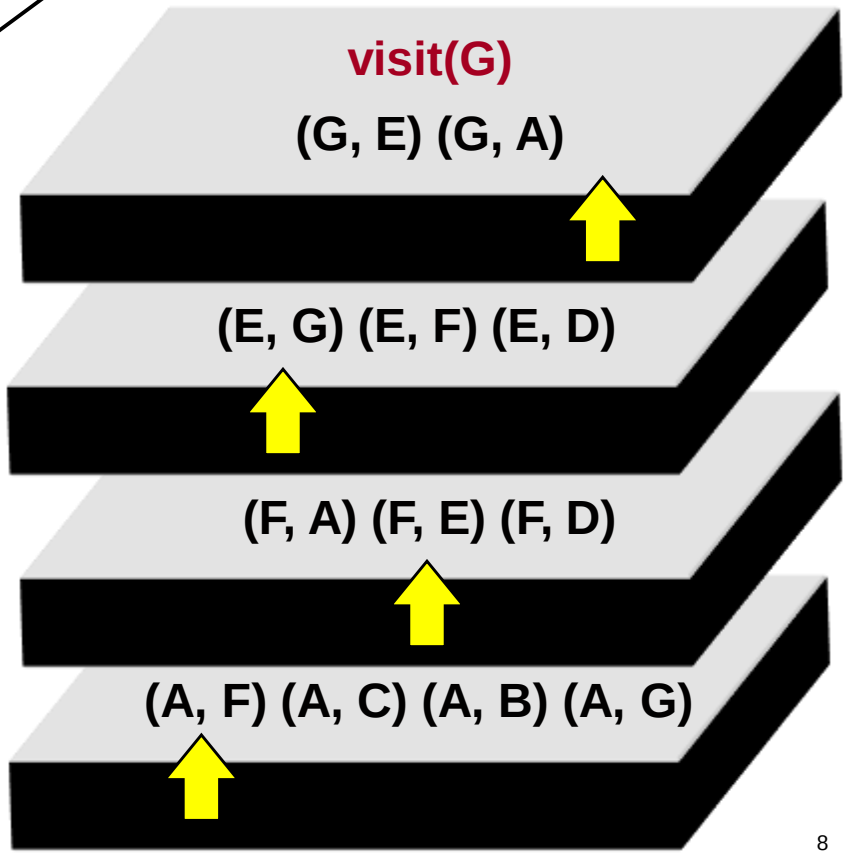




Finished G

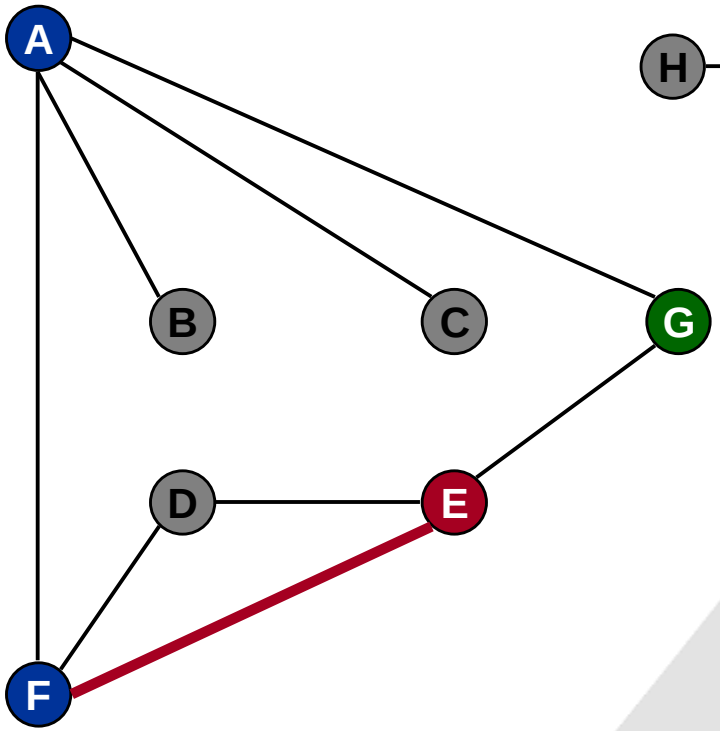


Undiscovered
Marked
Active
Finished

Stack

Undirected Depth First Search

F already marked



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Marked
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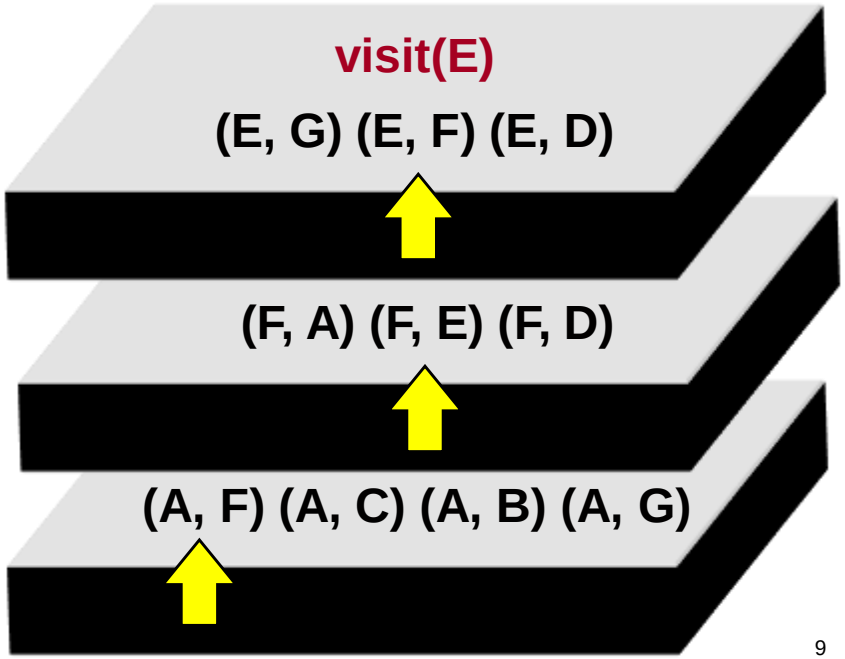
Finished



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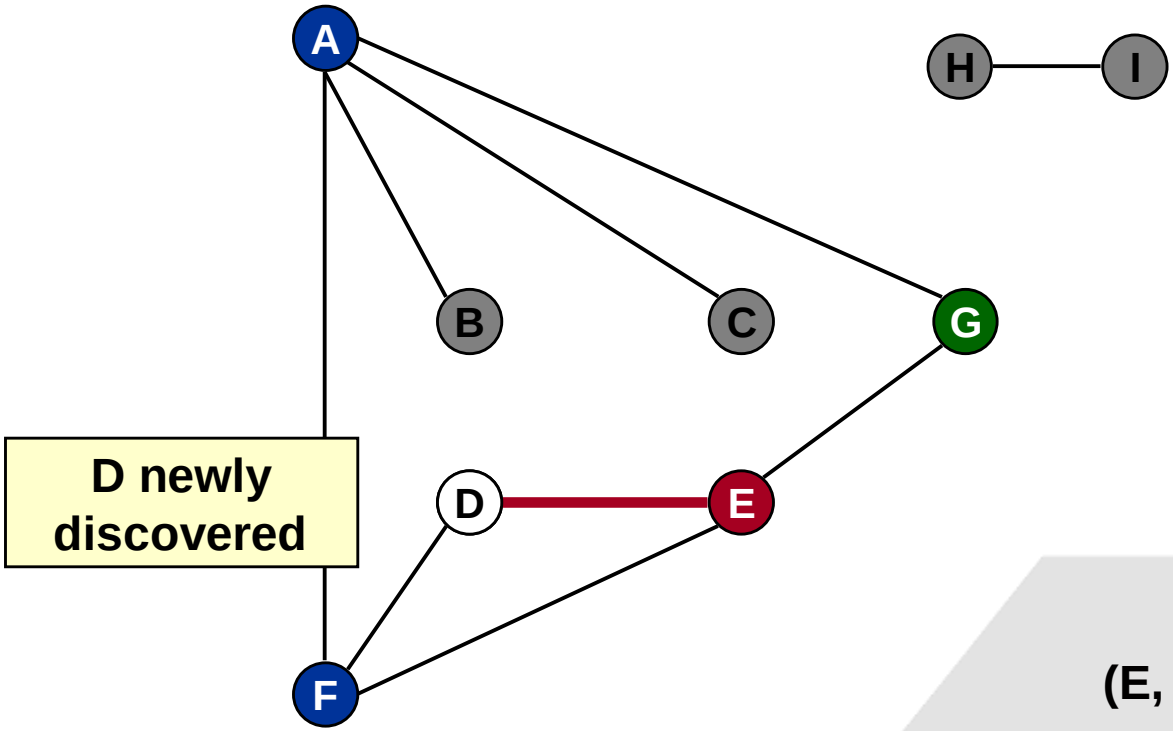

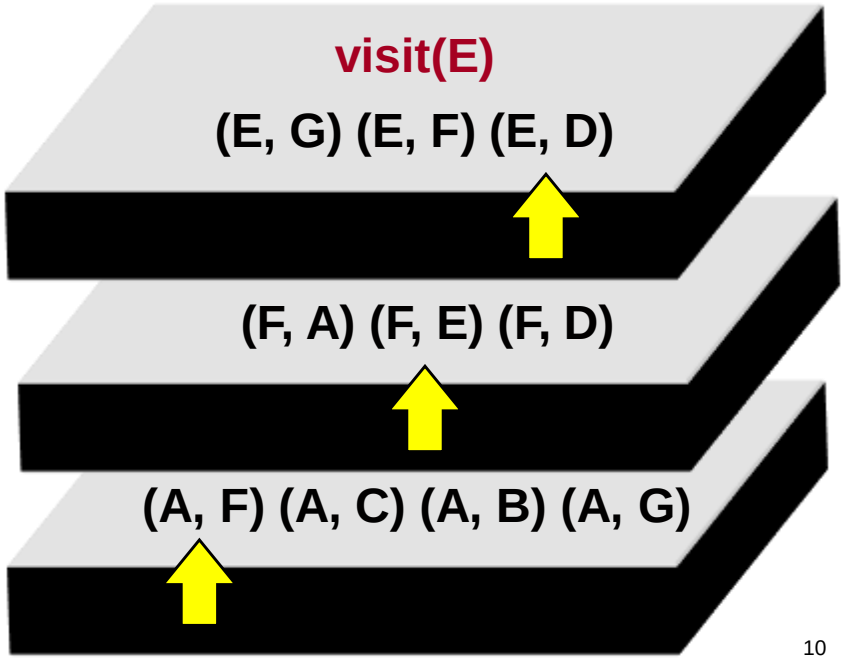

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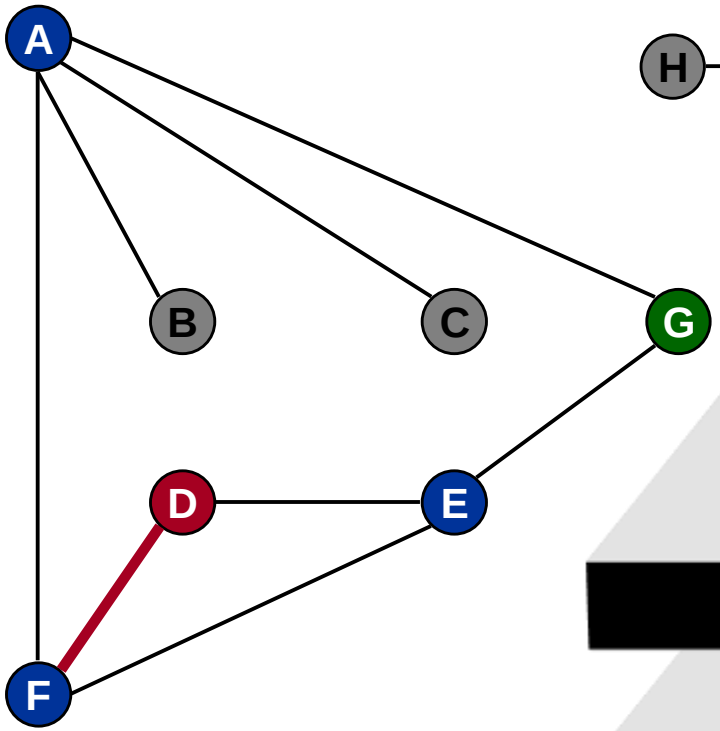

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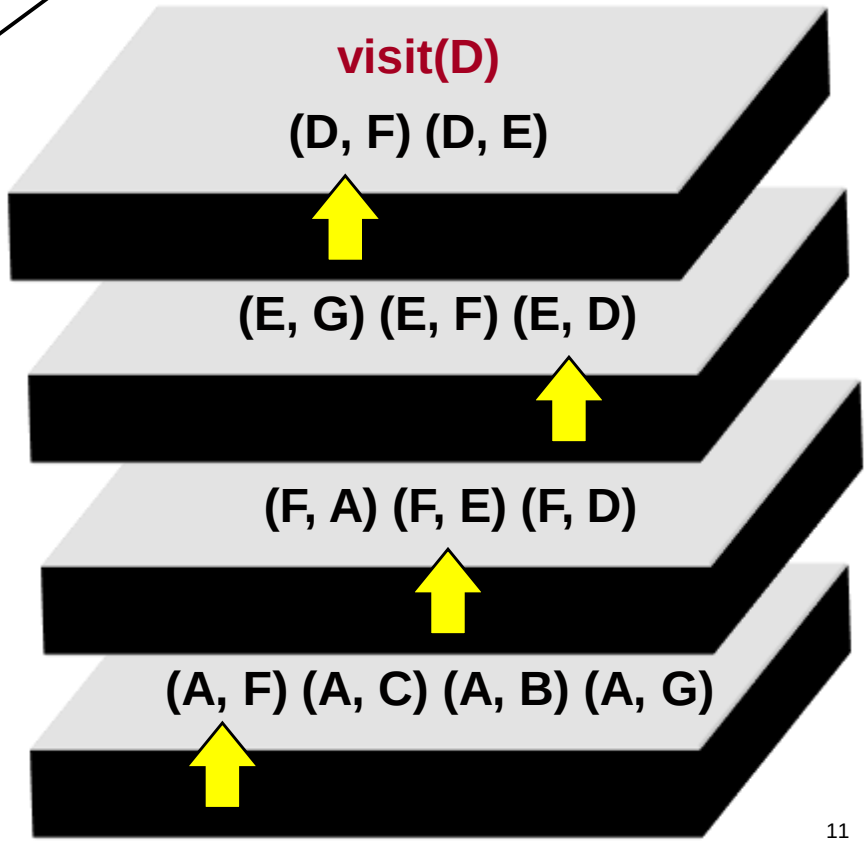
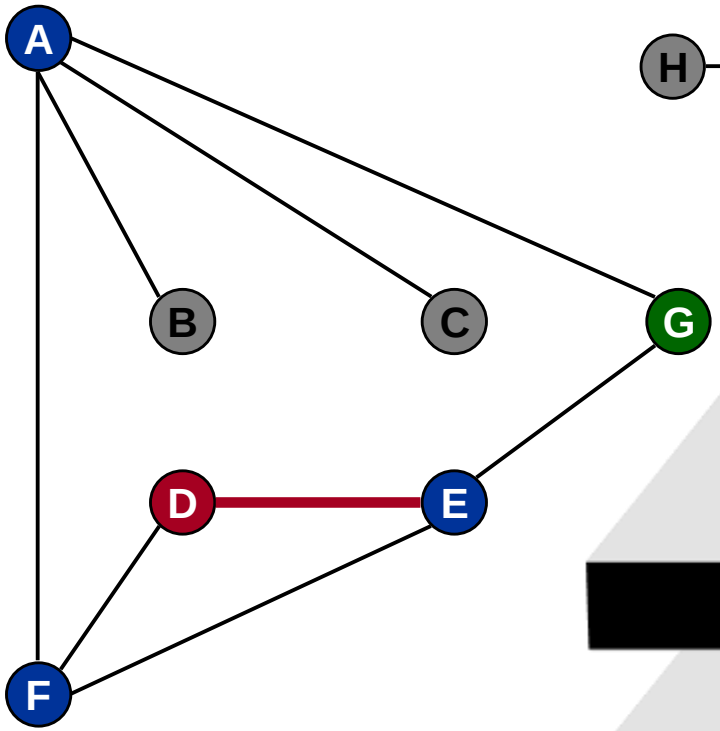


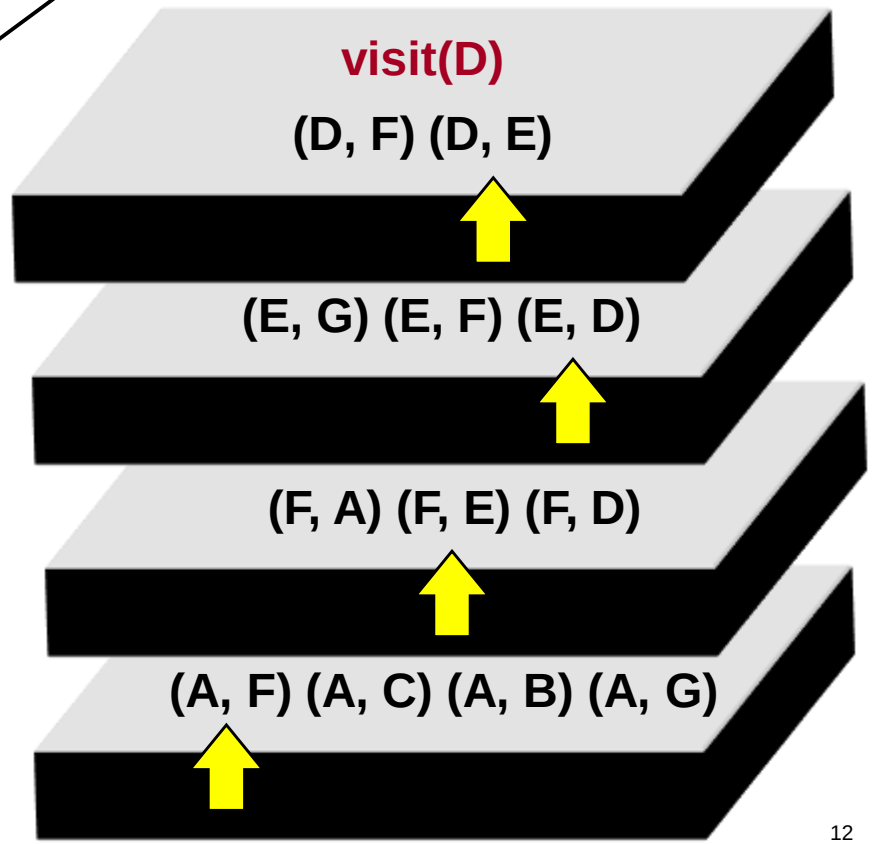
Stack

Undiscovered
Marked
Active
Finished

Undirected Depth First Search



E already marked



Stack

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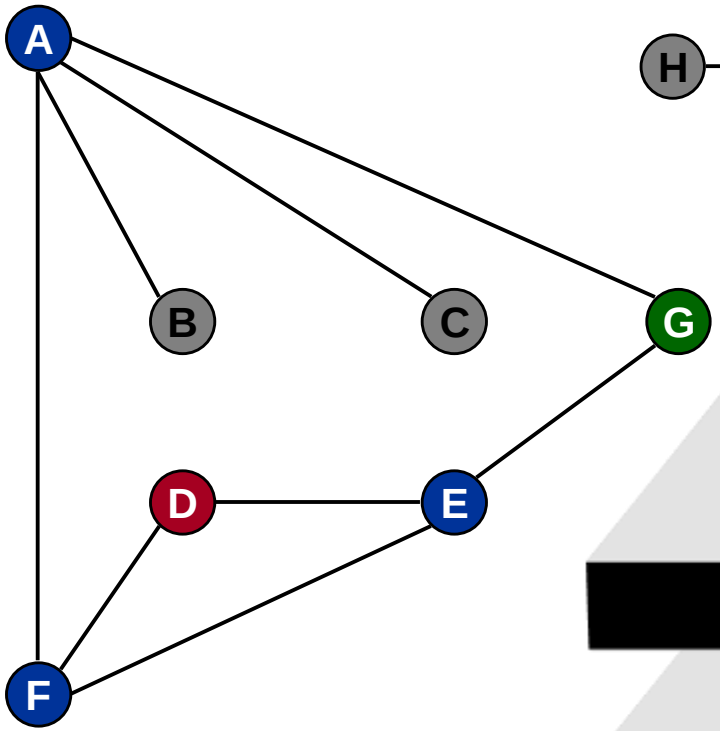
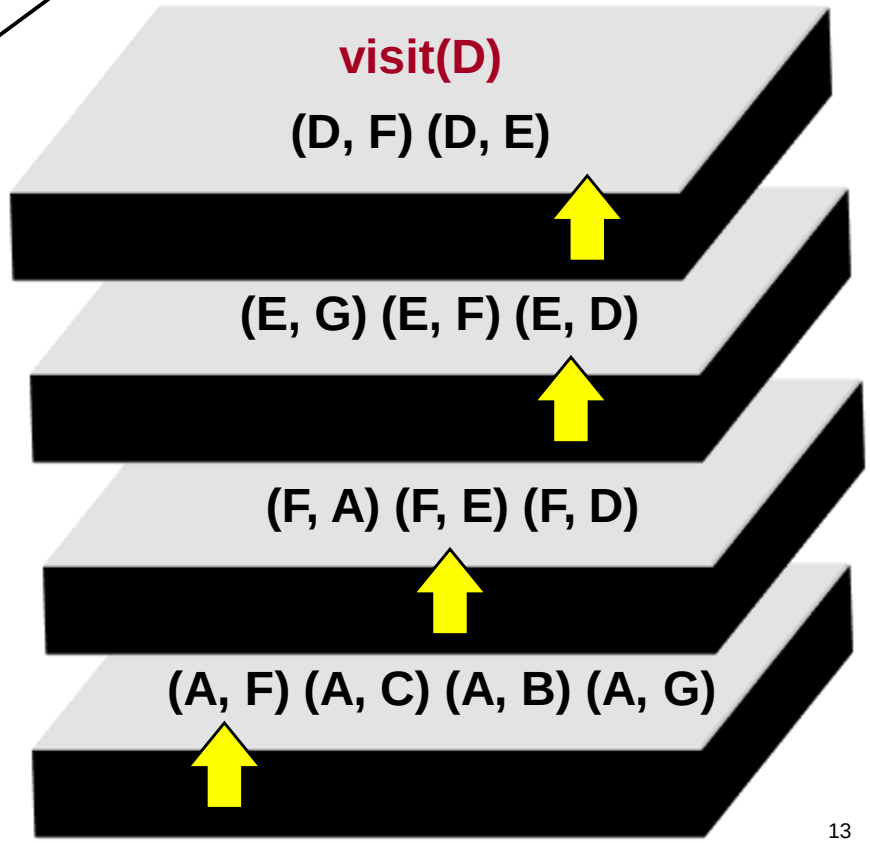


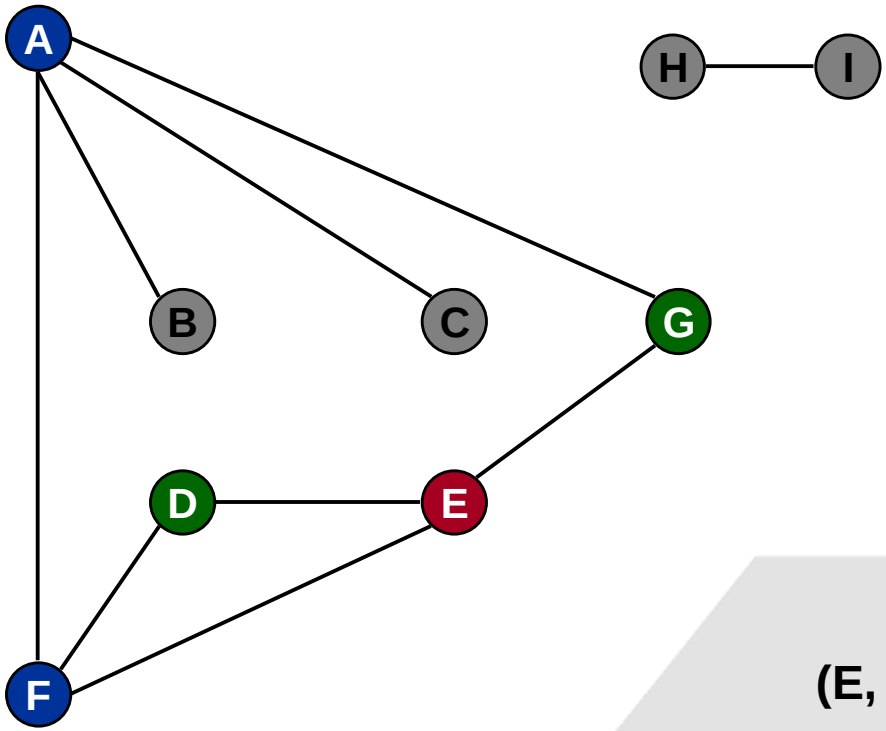
Finished D



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

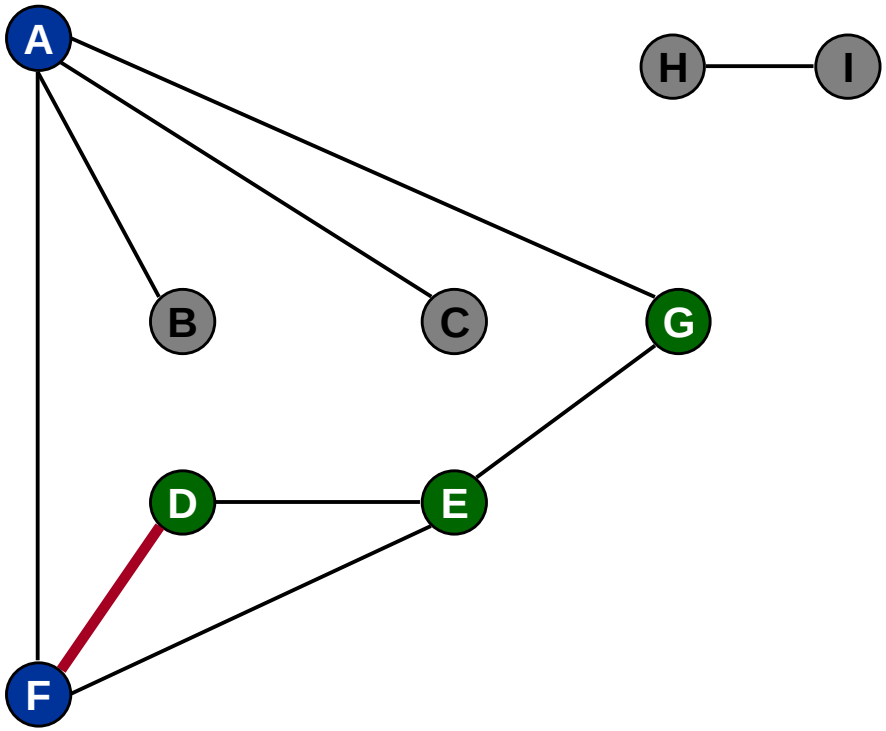
Active

Finished

Stack

Undirected Depth First Search

D already marked



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Marked
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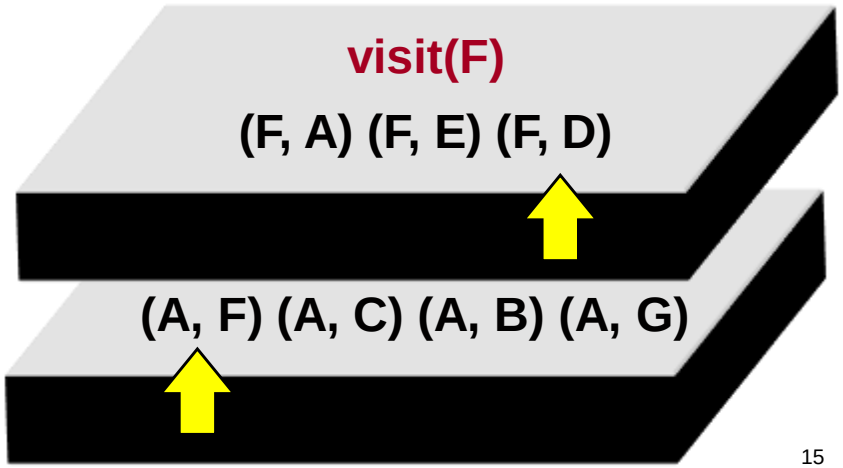

Stack

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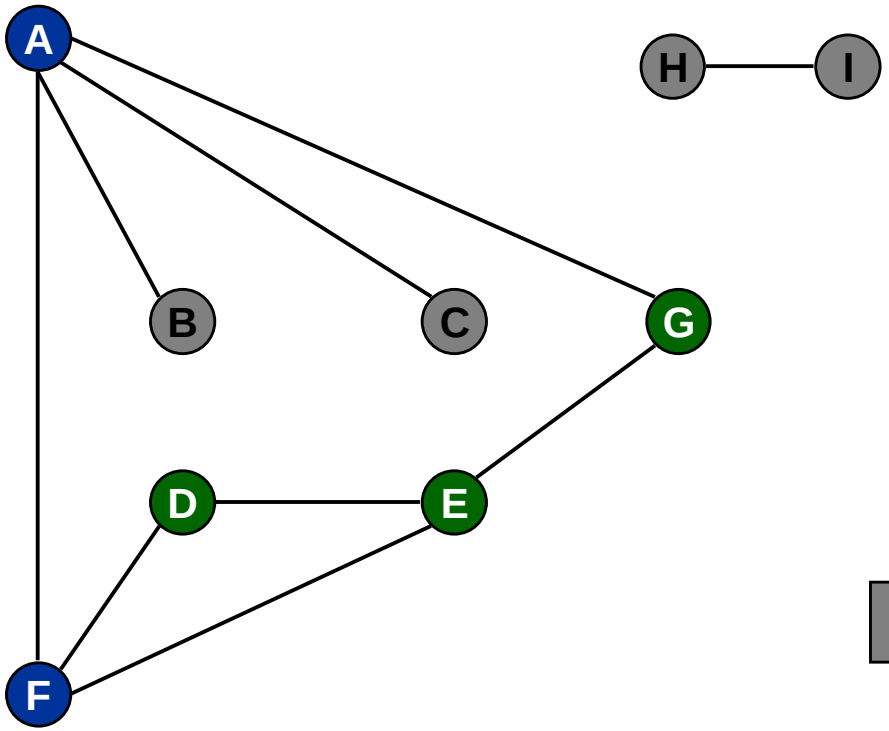


Finished F

visit(F)

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

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

Undiscovered

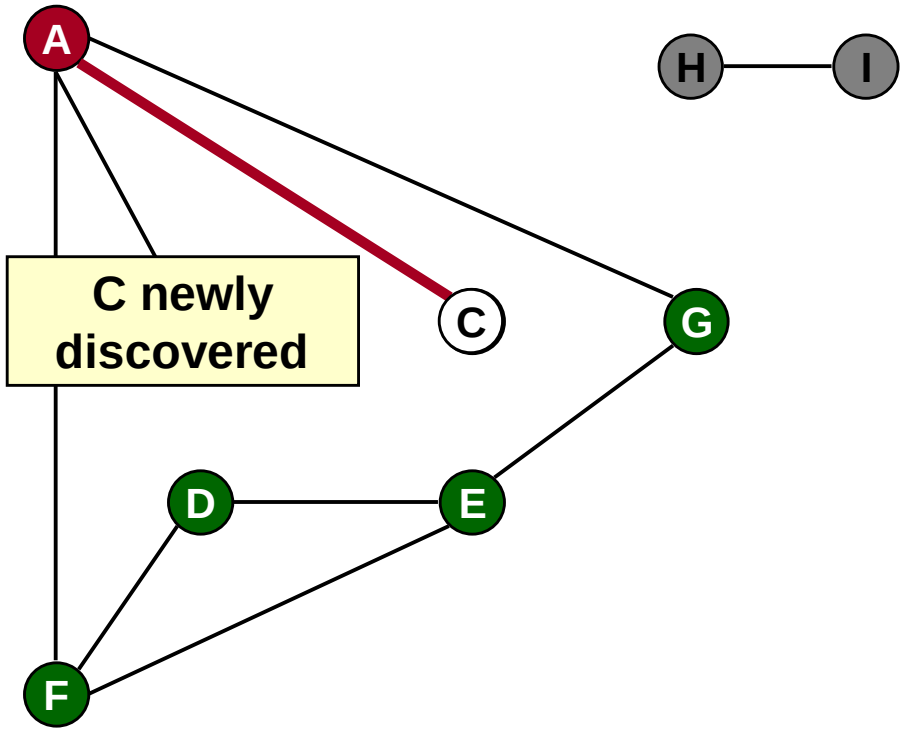
Marked

Active

Finished

Stack

Undirected Depth First Search



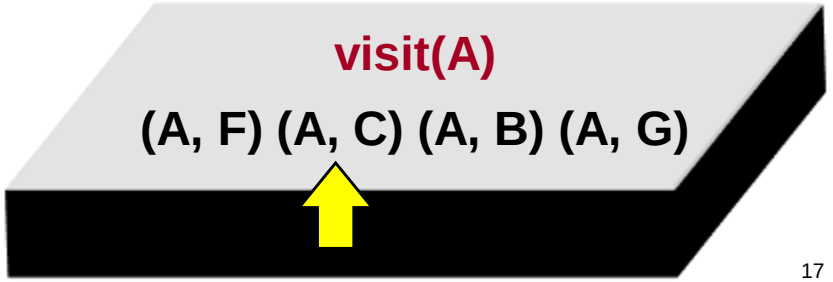
Undiscovered

Marked

Active

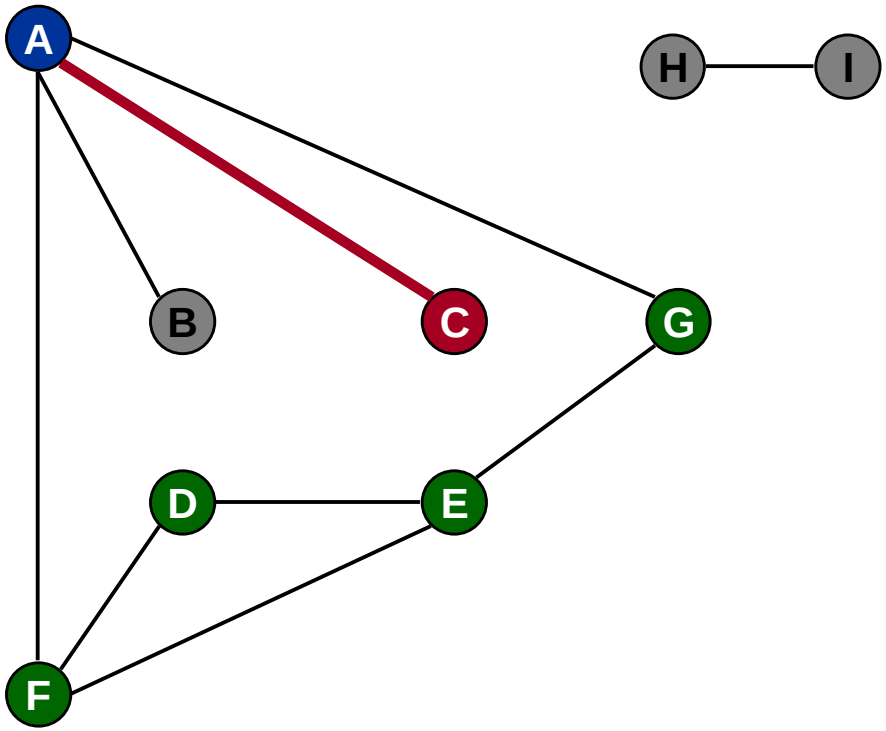
Finished

Stack



Undirected Depth First Search

A already marked



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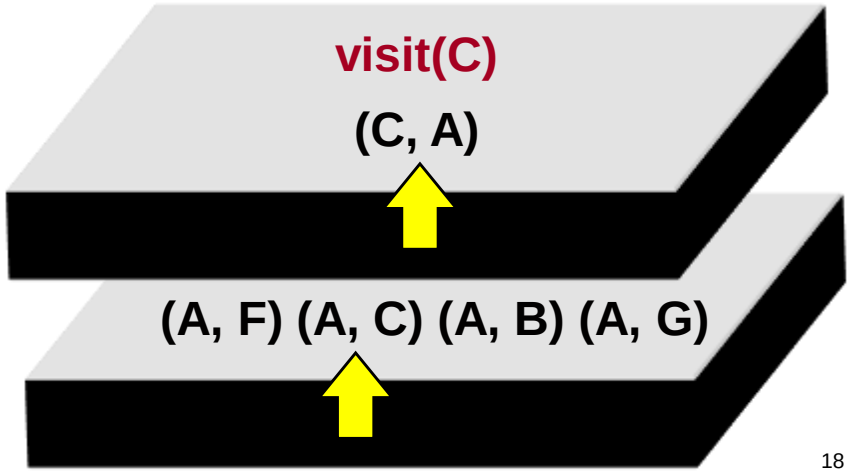

Stack

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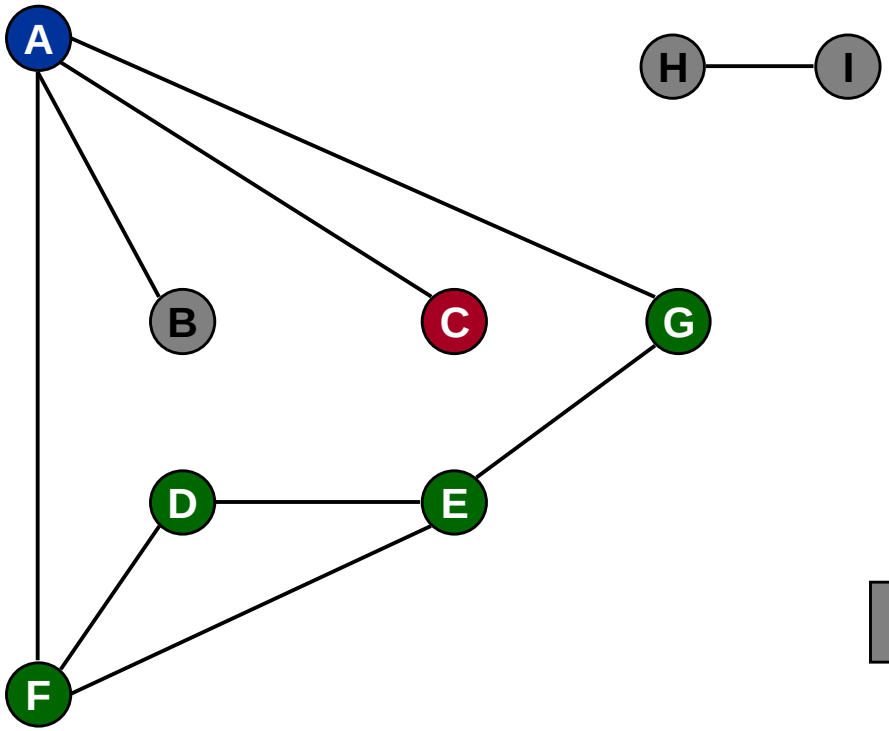


Finished C

visit(C)

(C, A)

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

Stack

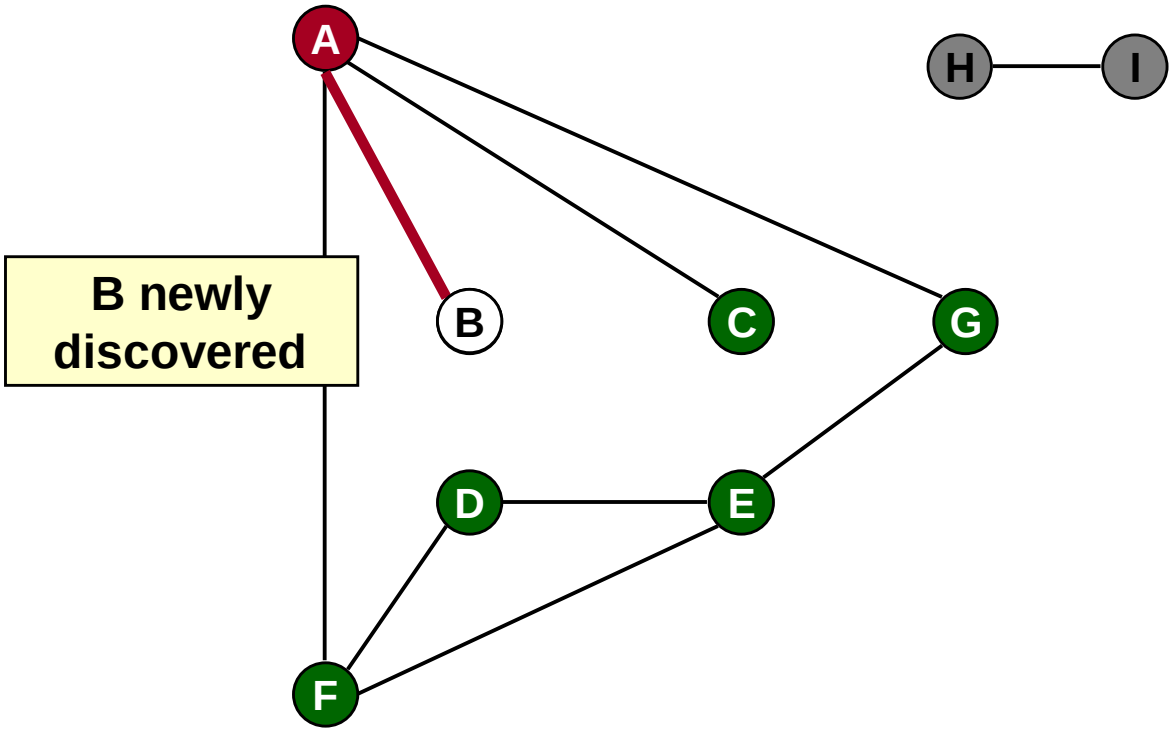
Undiscovered

Marked

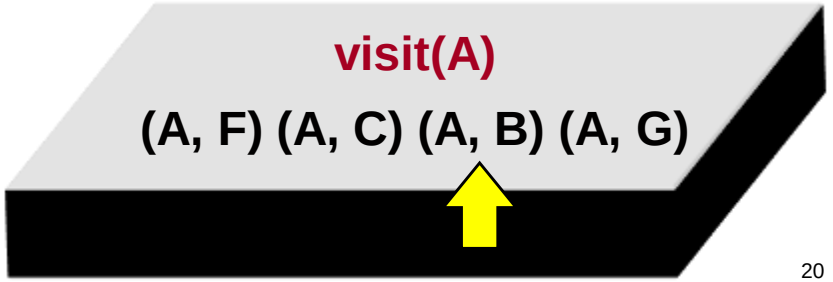
Active

Finished

Undirected Depth First Search



Stack



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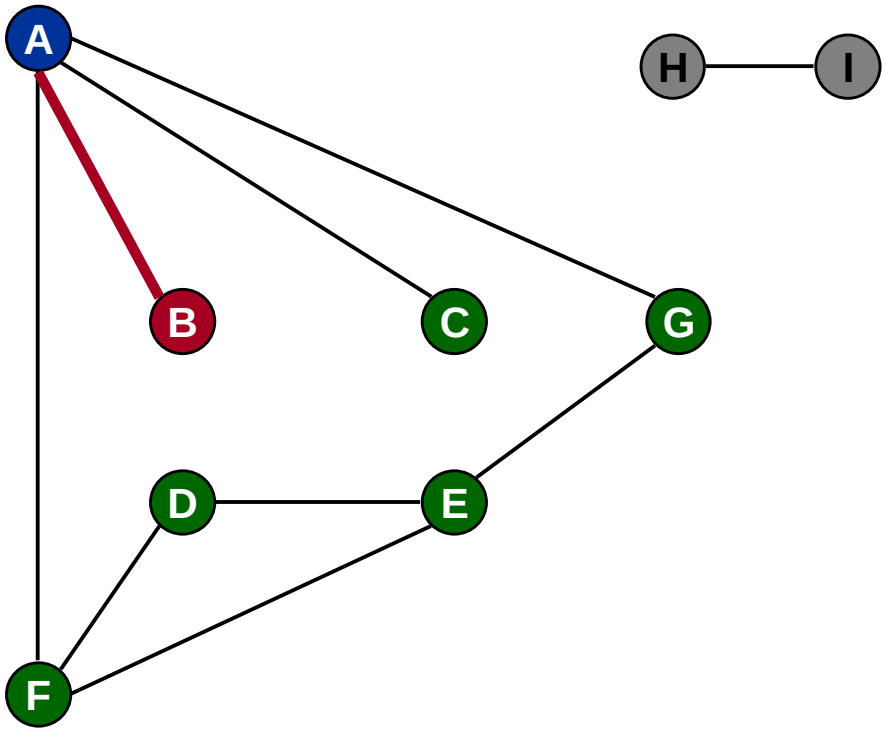
A already marked



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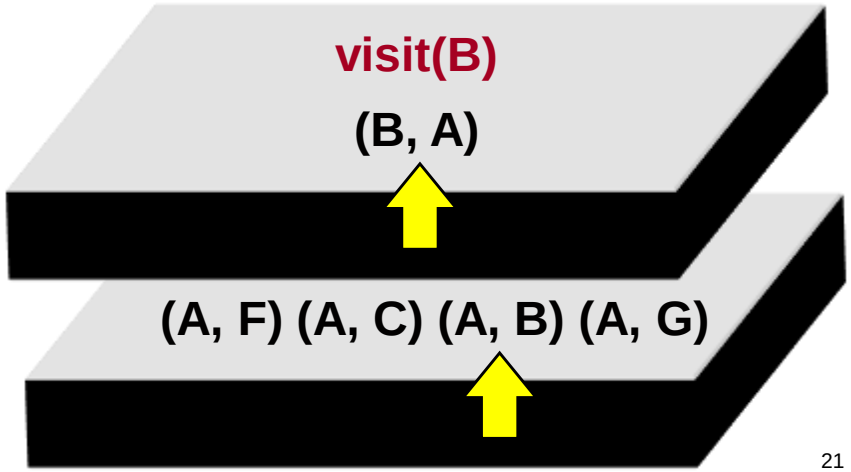

Stack

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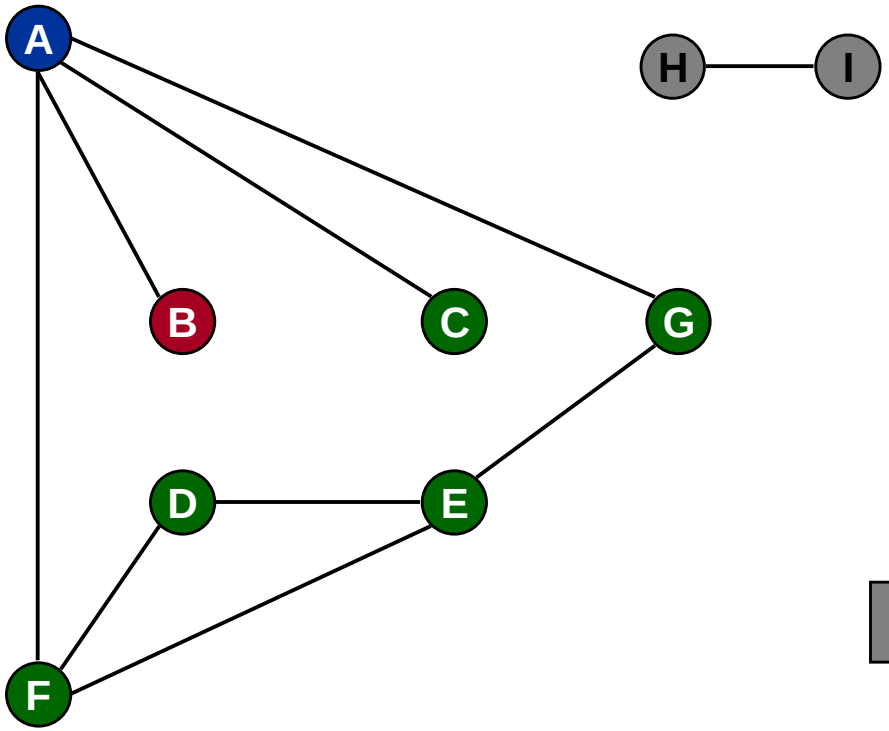


Finished B

visit(B)

(B, A)

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

Stack

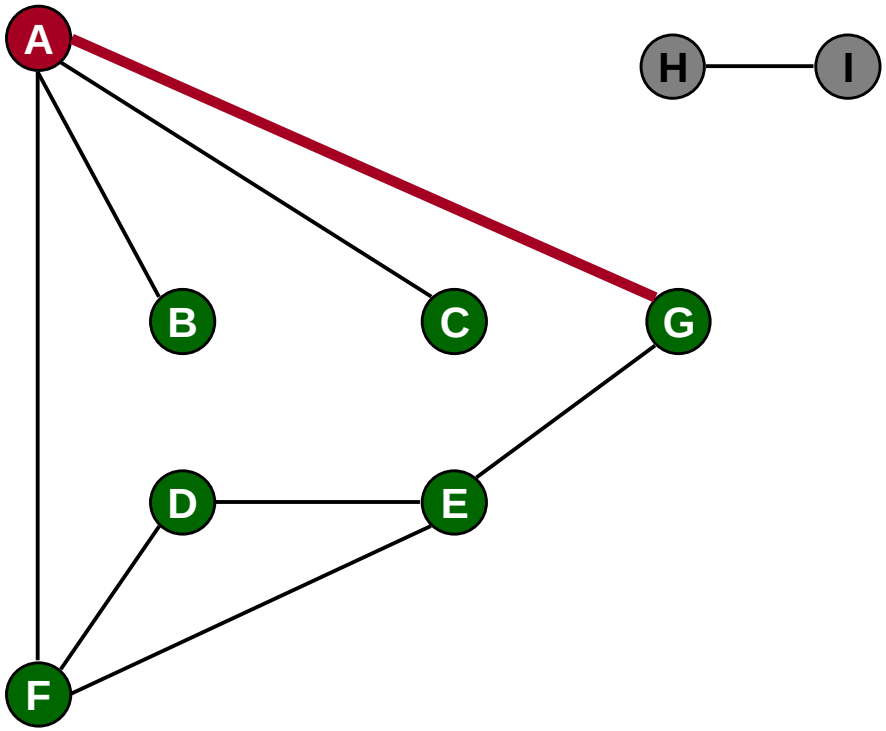
Undiscovered

Marked

Active

Finished

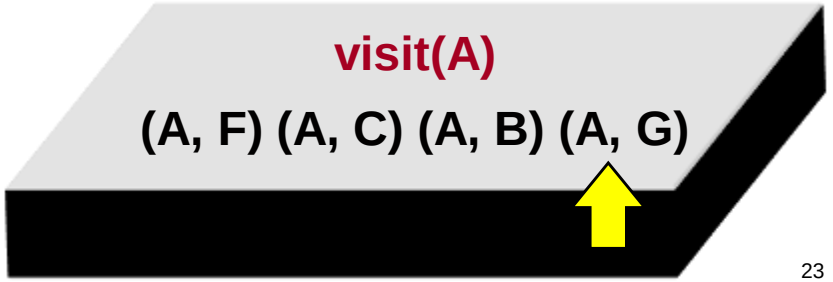
Undirected Depth First Search



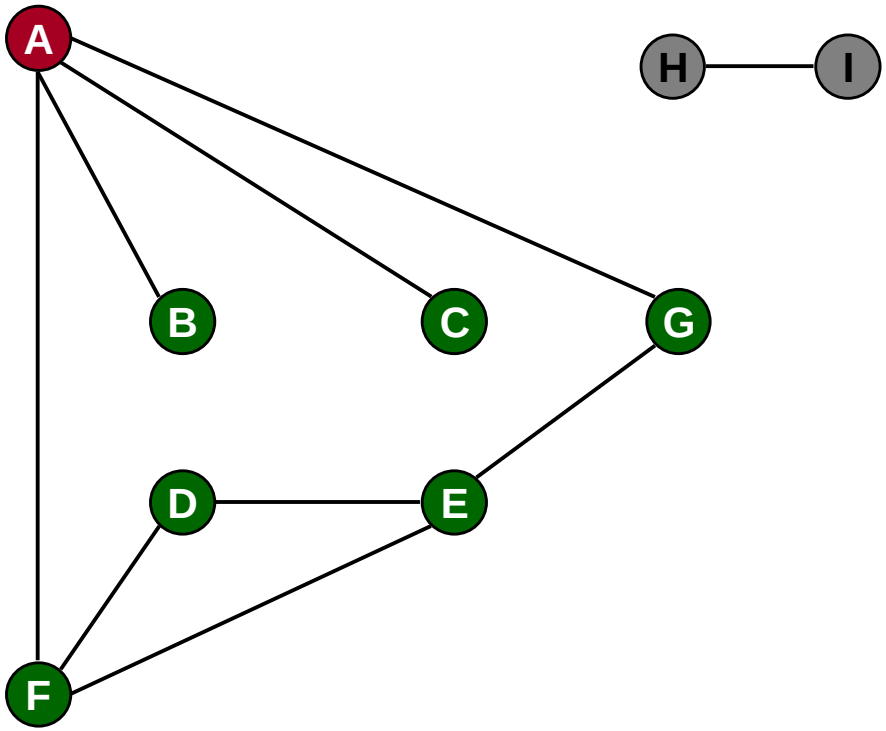
G already finished

Undiscovered
Marked
Active
Finished

Stack



Undirected Depth First Search



Undiscovered

Marked

Active

Finished

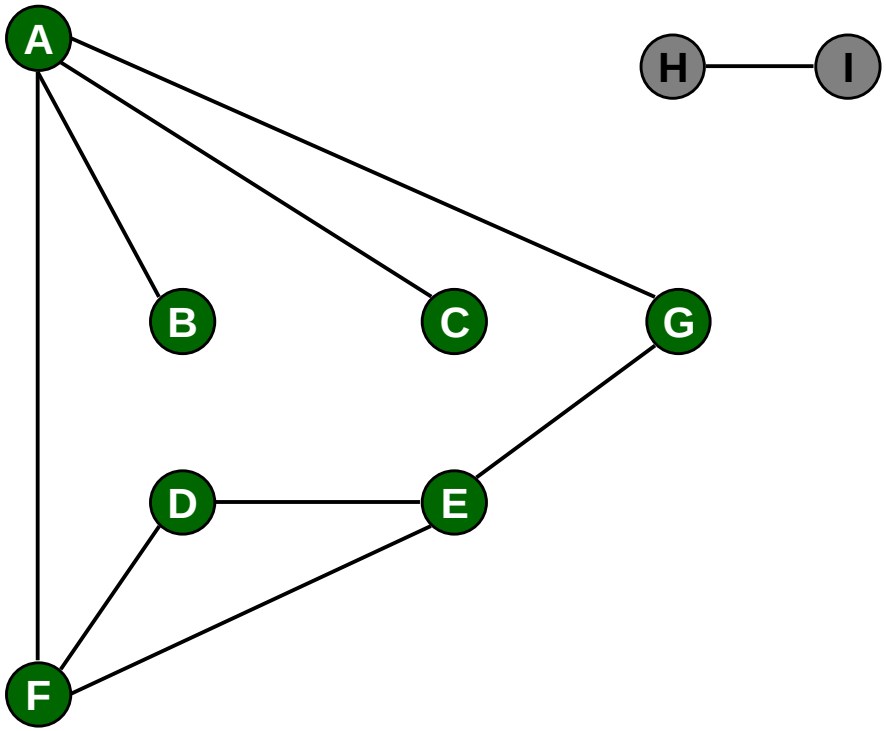
Finished A

visit(A)

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

Stack

Undirected Depth First Search



Undiscovered

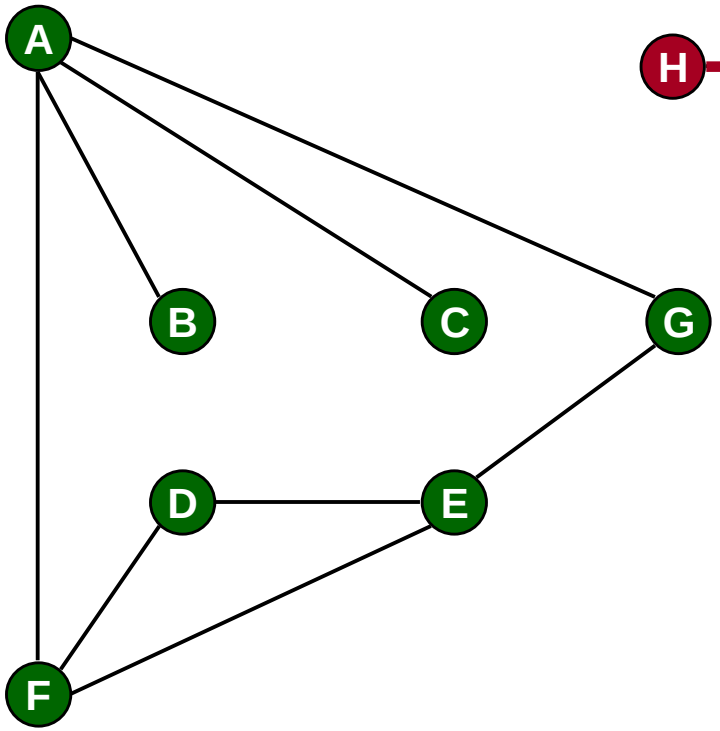
Marked

Active

Finished

Stack

Undirected Depth First Search



I newly discovered

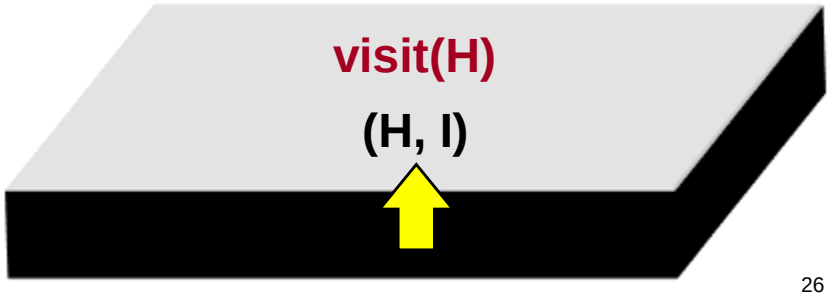
Undiscovered

Marked

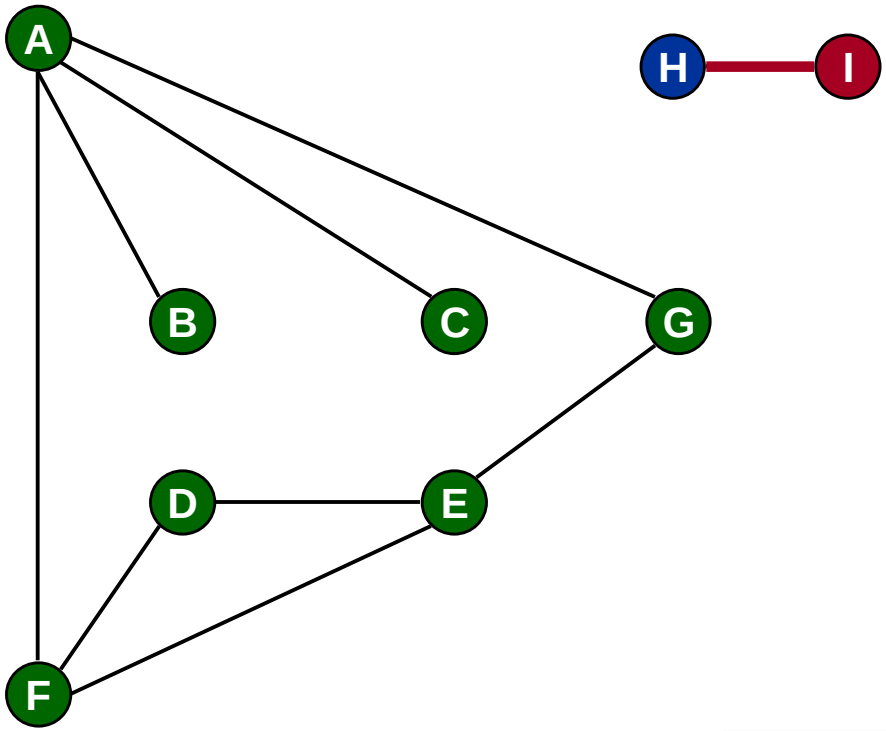
Active

Finished

Stack



Undirected Depth First Search

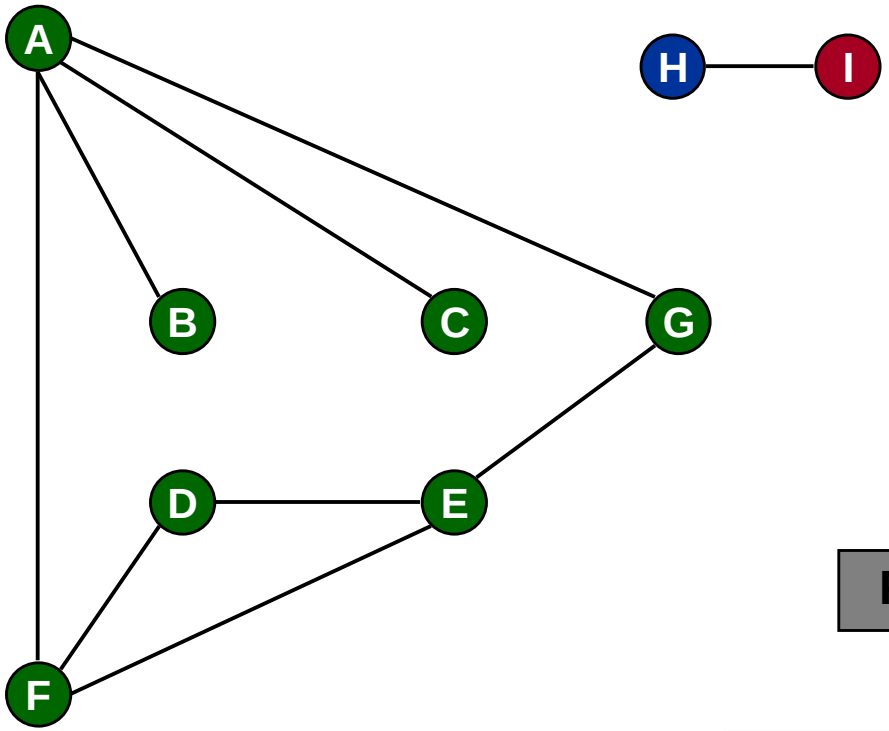


H already marked

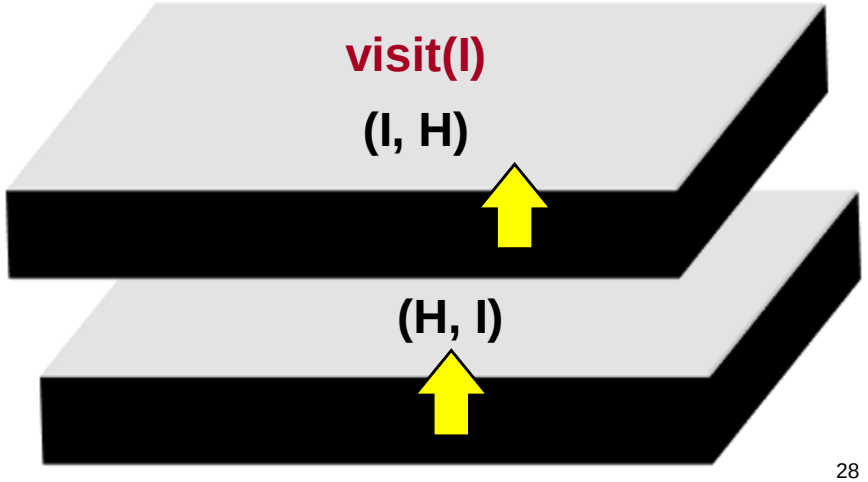
Undiscovered
Marked
Active
Finished

Stack

Undirected Depth First Search



Finished I



Undiscovered

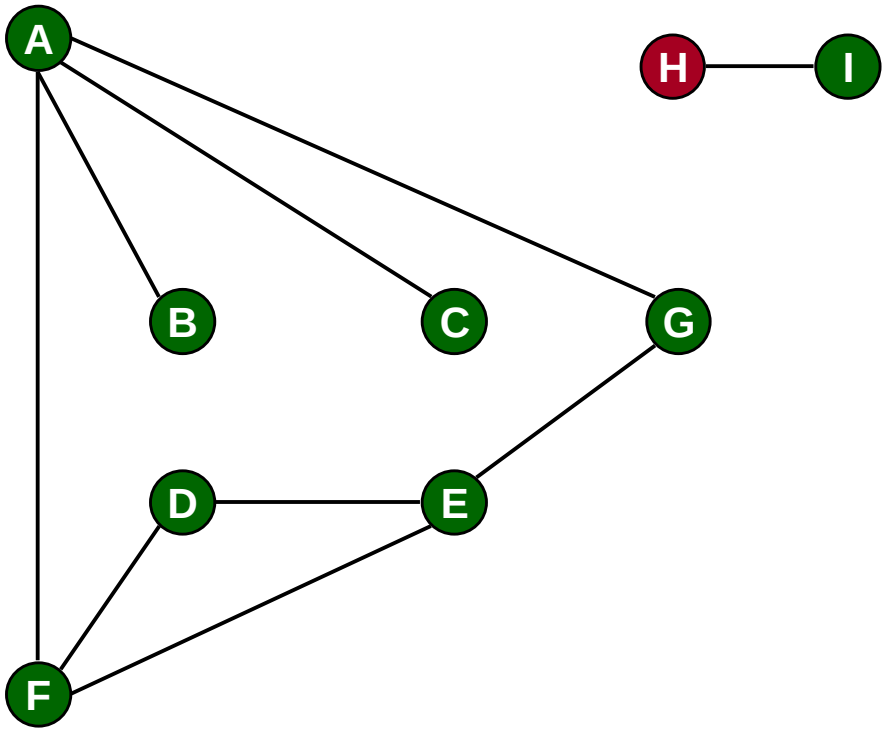
Marked

Active

Finished

Stack

Undirected Depth First Search



Undiscovered
Marked
Active
Finished

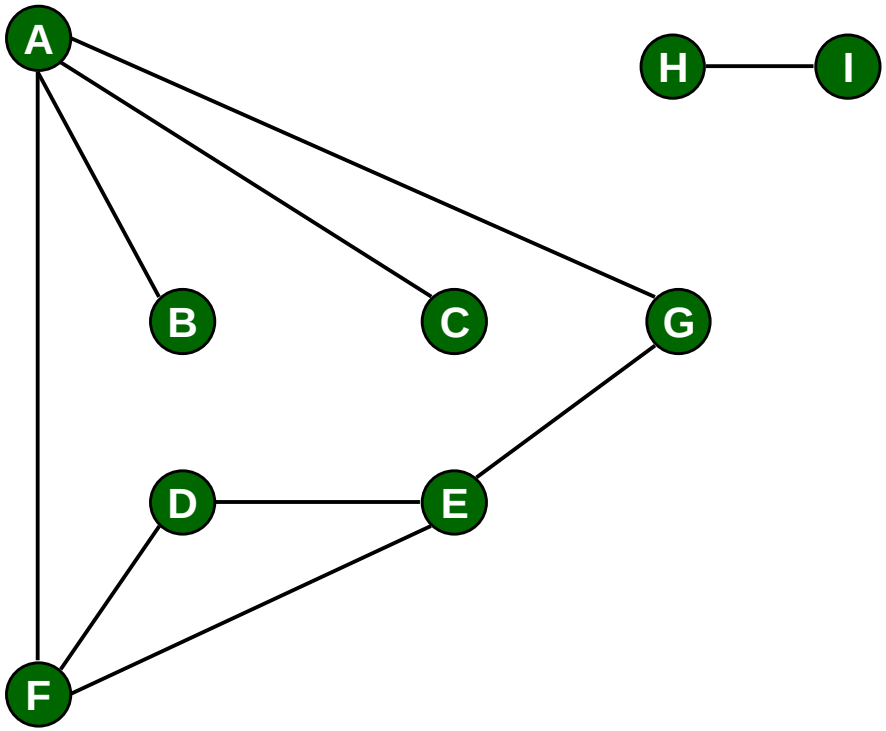
FinishedH

visit(H)

(H, I)

Stack

Undirected Depth First Search



Undiscovered

Marked

Active

Finished

Stack