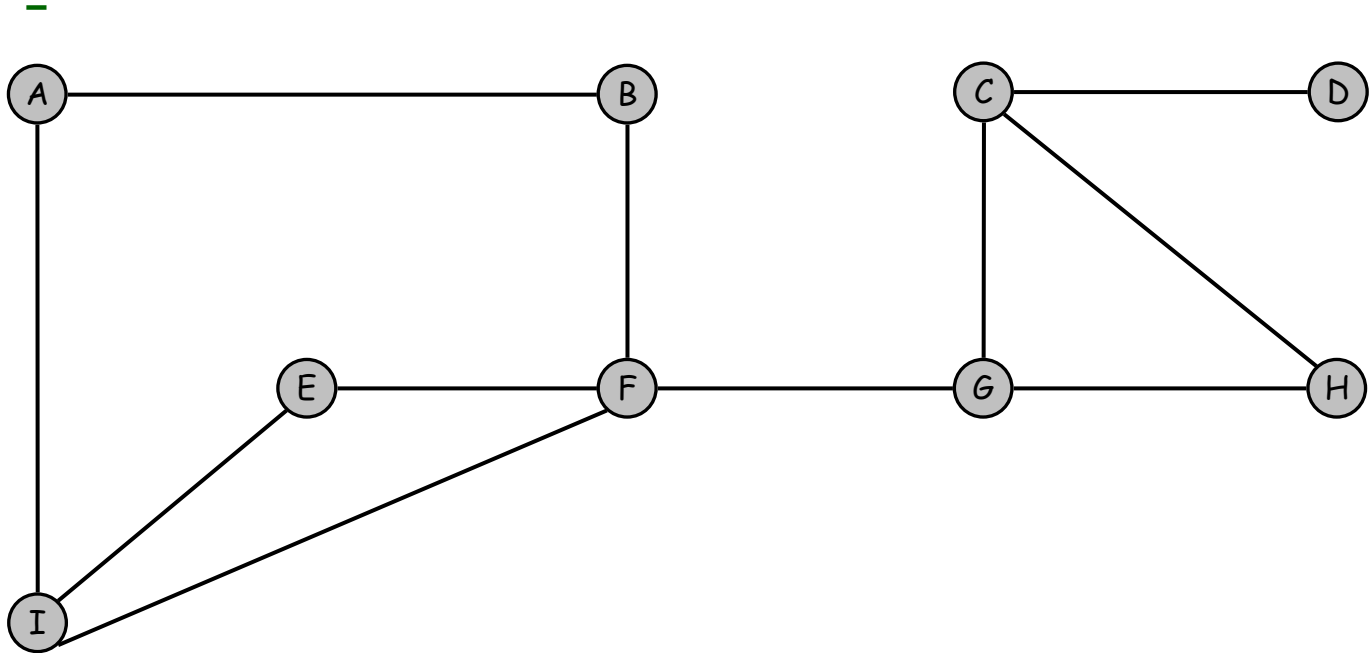


# Breadth First Search

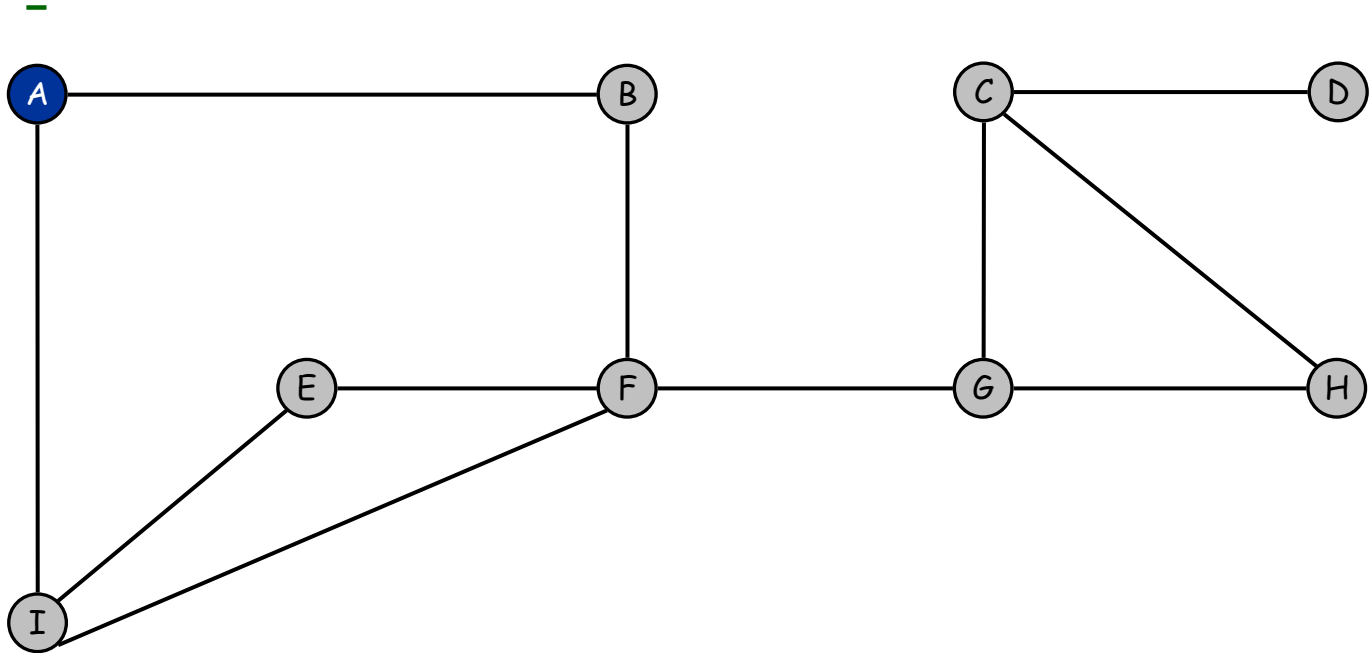


front



FIFO Queue

# Breadth First Search



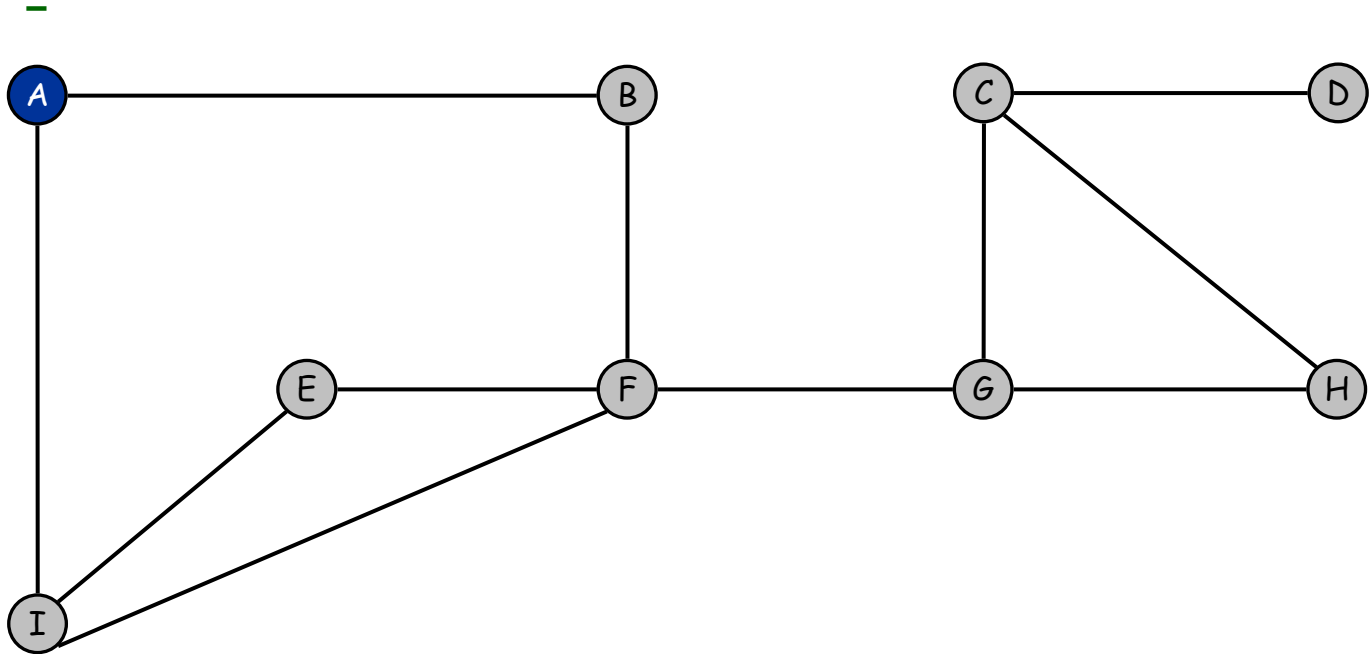
enqueue source node

front

**A**

FIFO Queue

# Breadth First Search



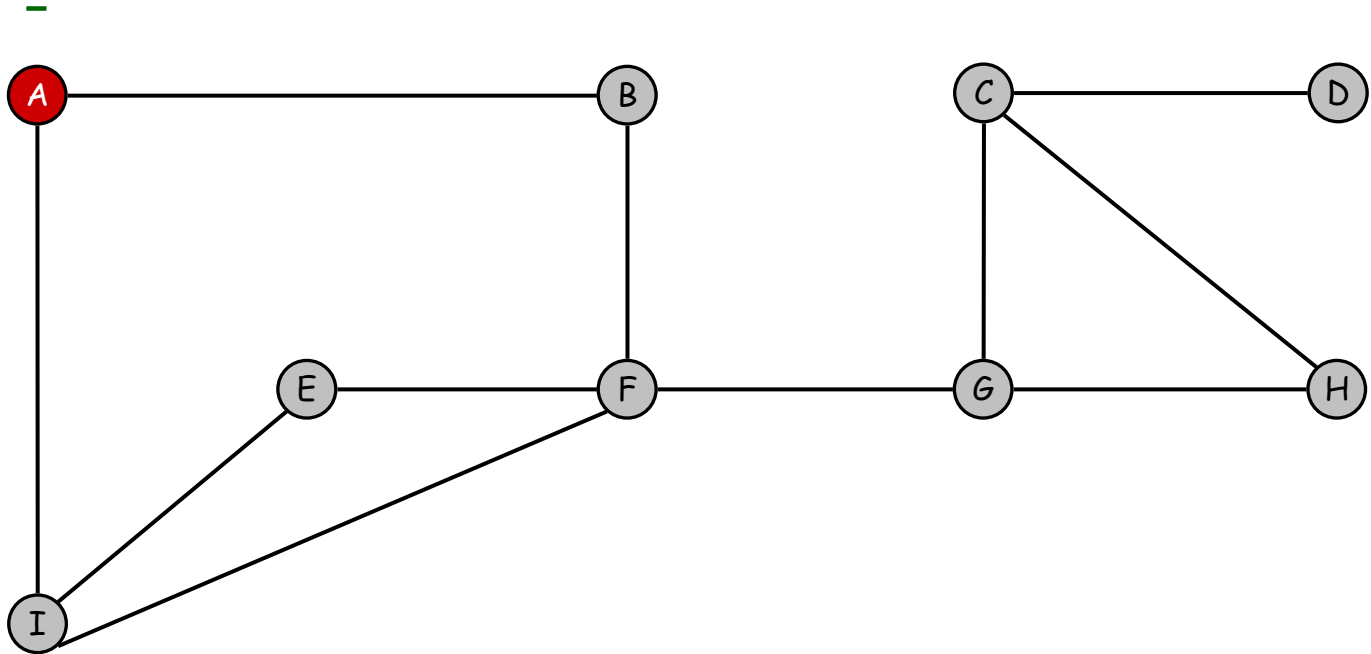
dequeue next vertex

front

**A**

FIFO Queue

# Breadth First Search

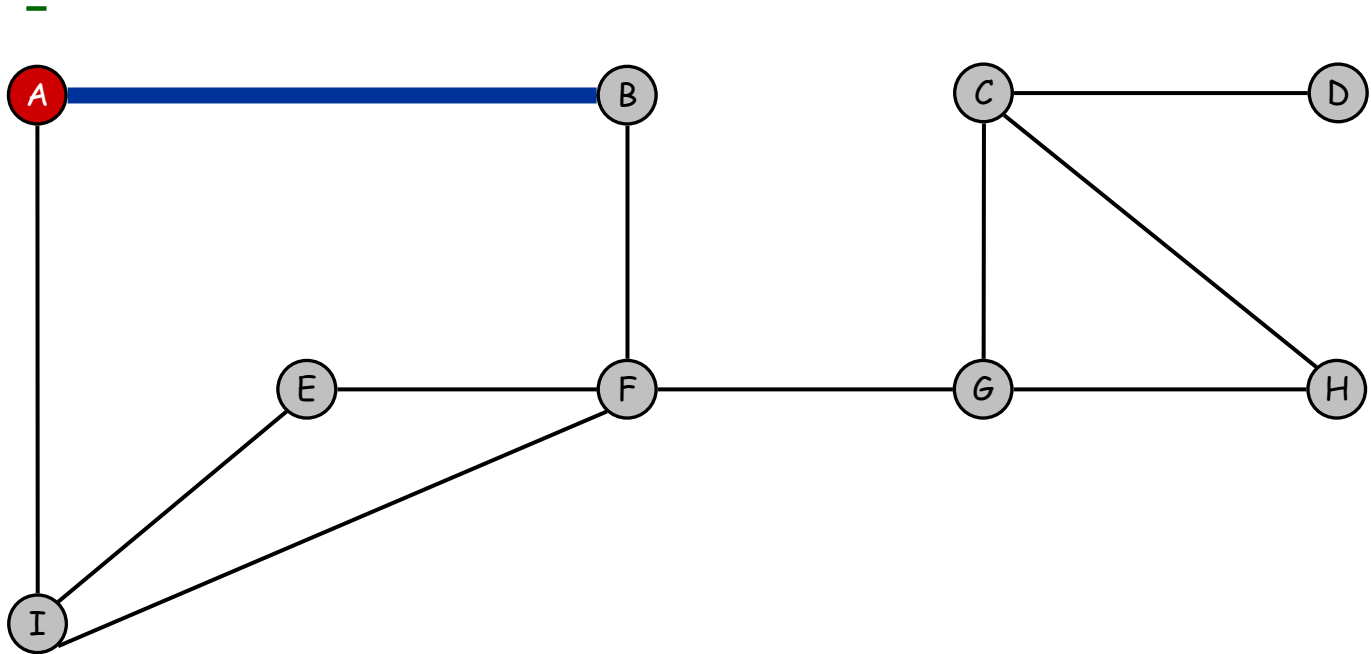


visit neighbors of A

front

FIFO Queue

# Breadth First Search

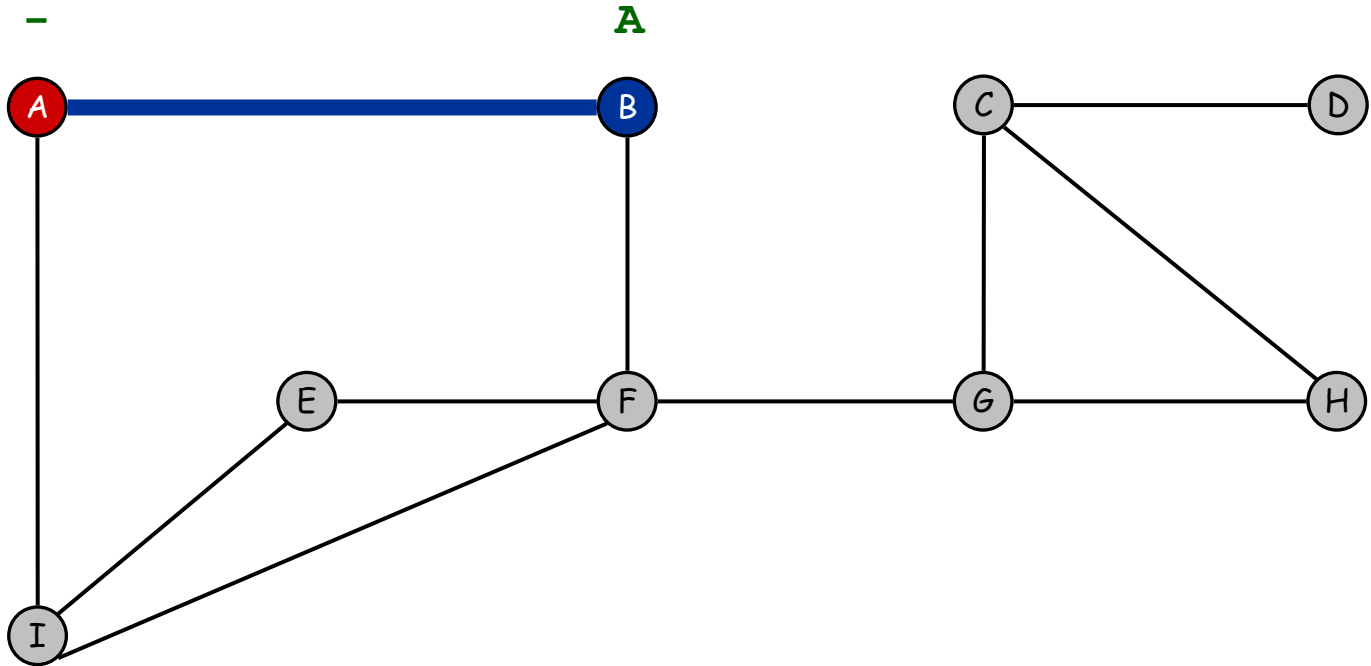


visit neighbors of A

front

FIFO Queue

# Breadth First Search



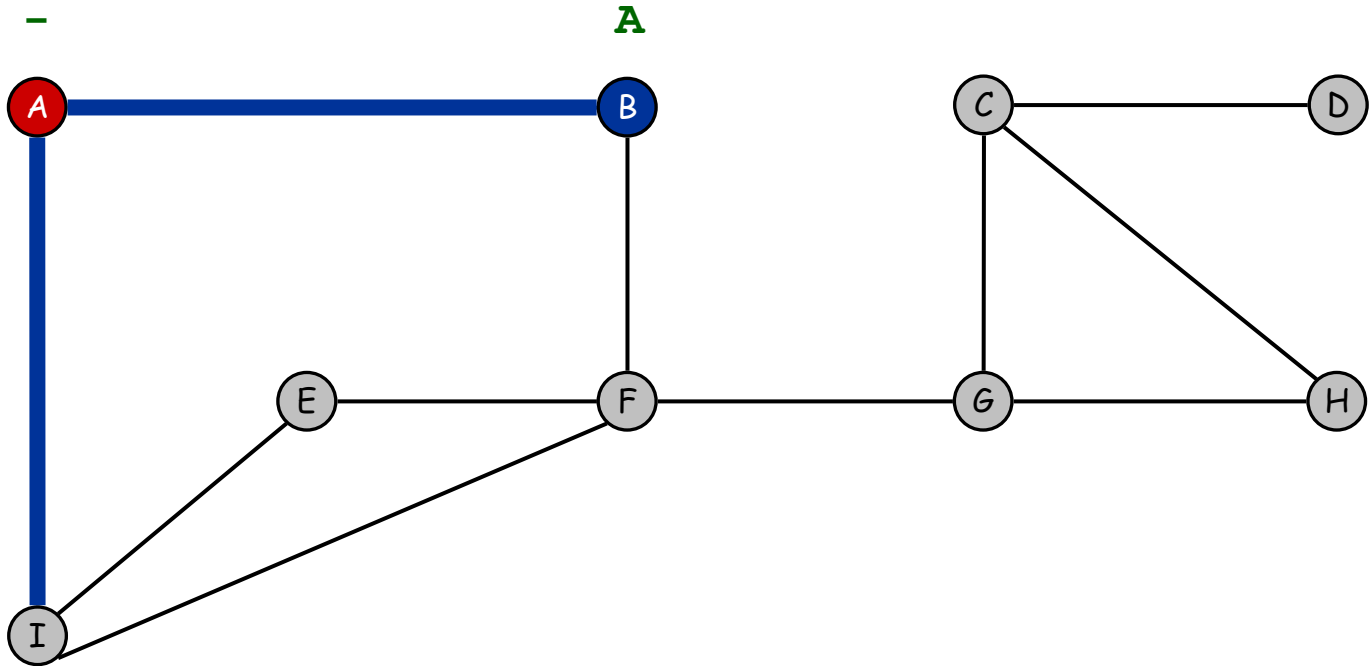
B discovered

front

**B**

FIFO Queue

# Breadth First Search



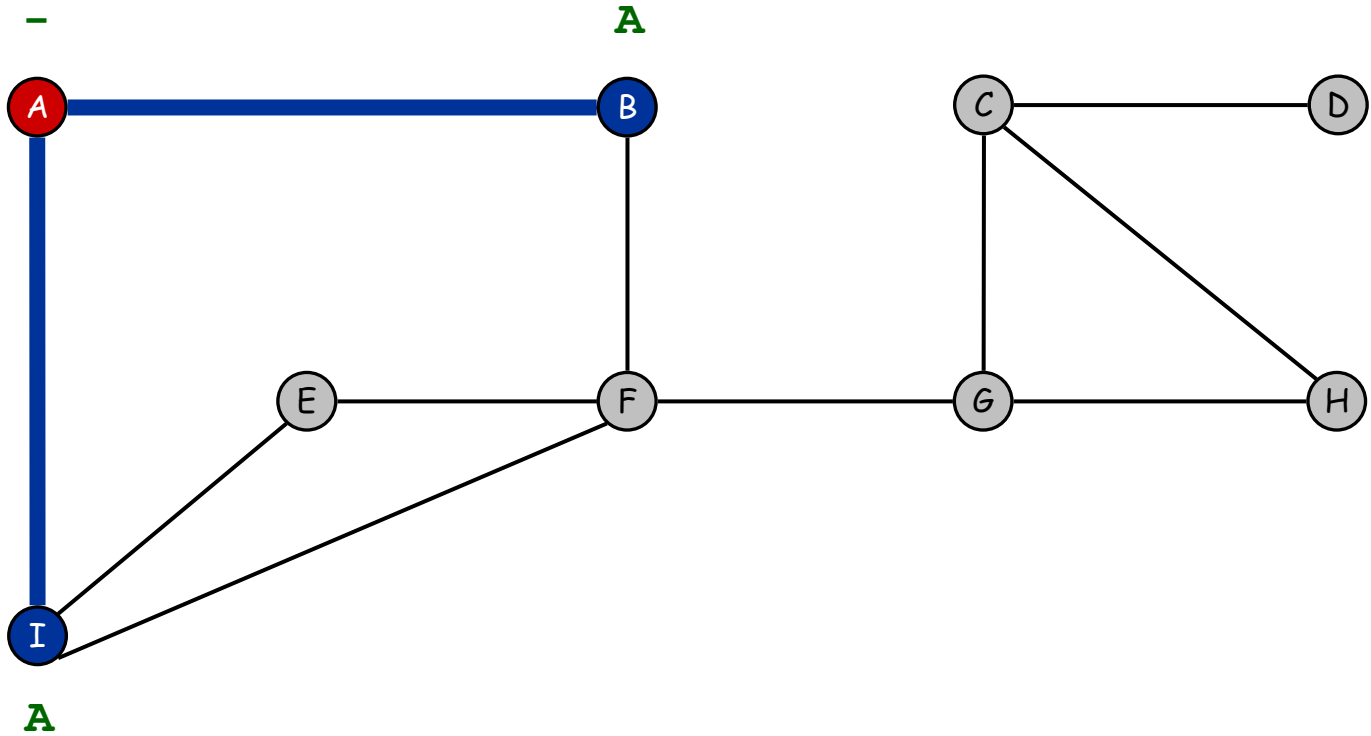
visit neighbors of A

front

**B**

FIFO Queue

# Breadth First Search



I discovered

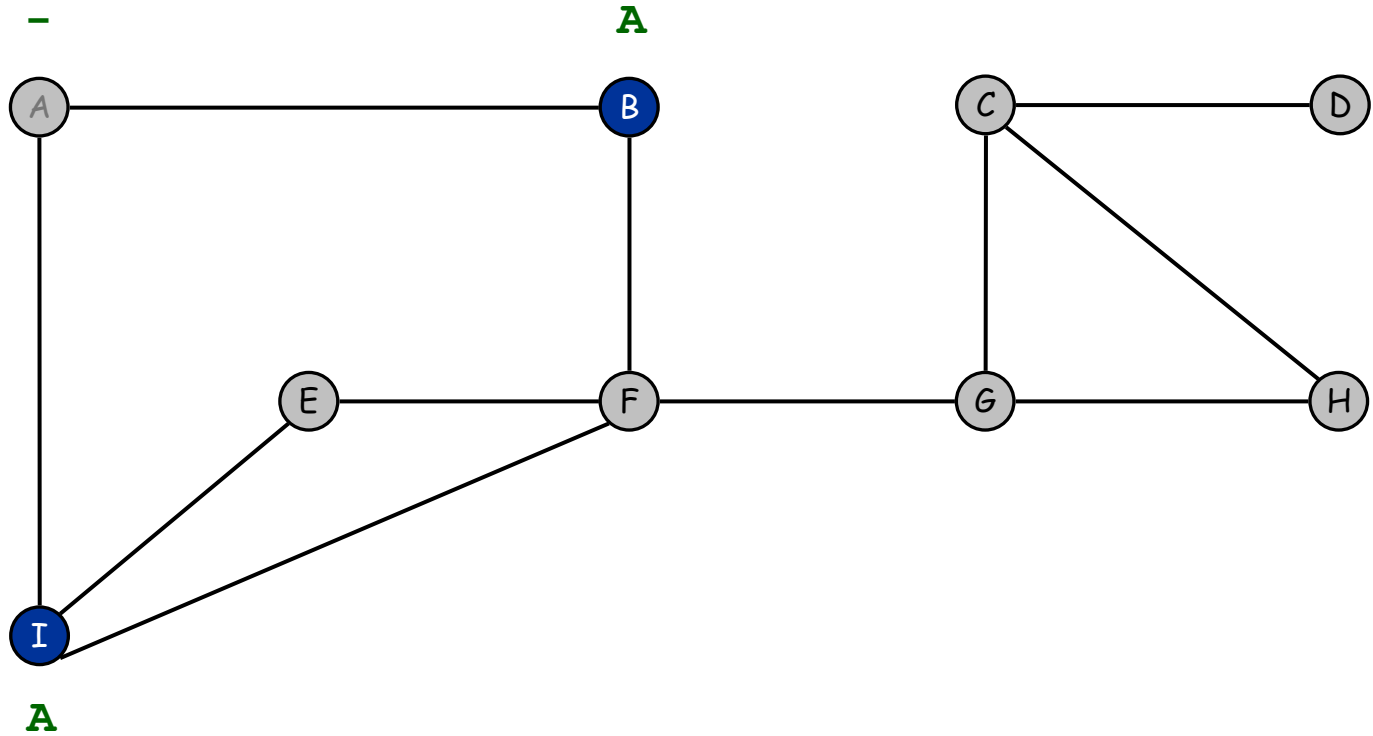
front

B I

FIFO Queue



# Breadth First Search



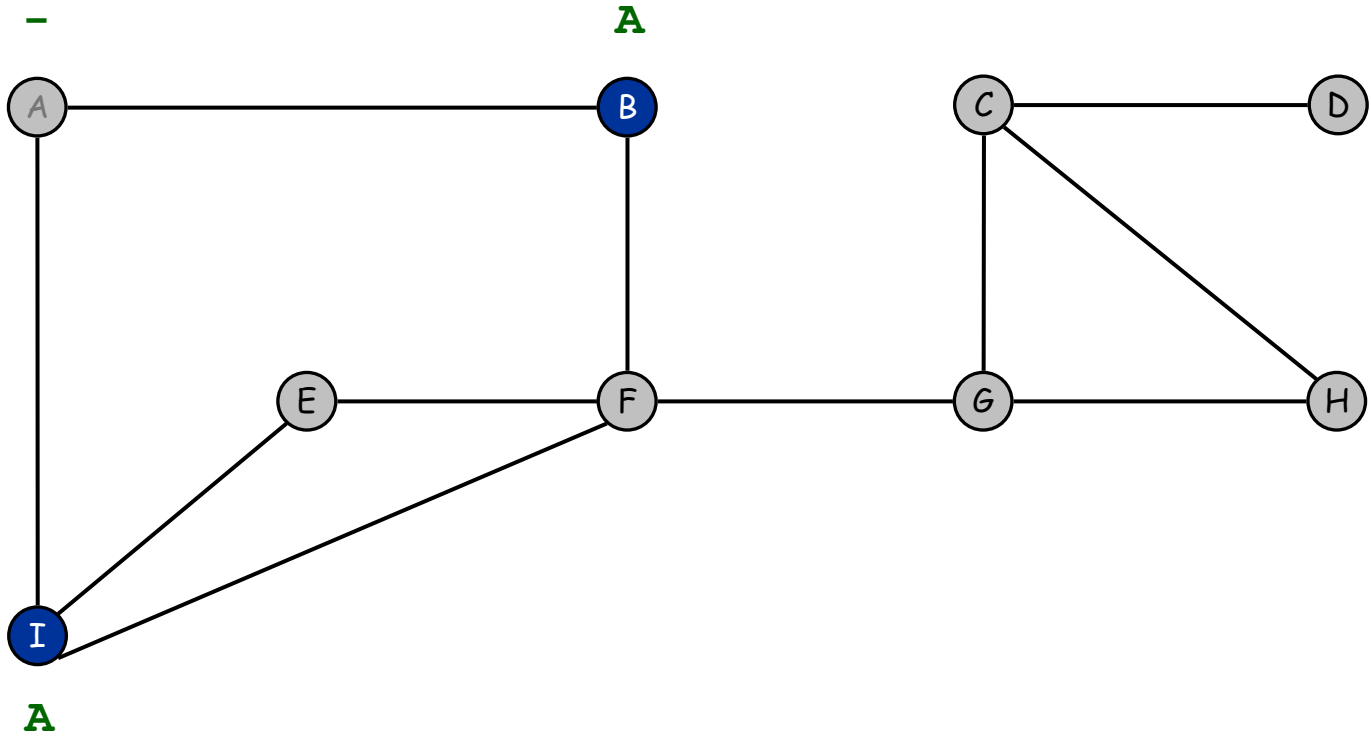
finished with A

front

B I

FIFO Queue

# Breadth First Search



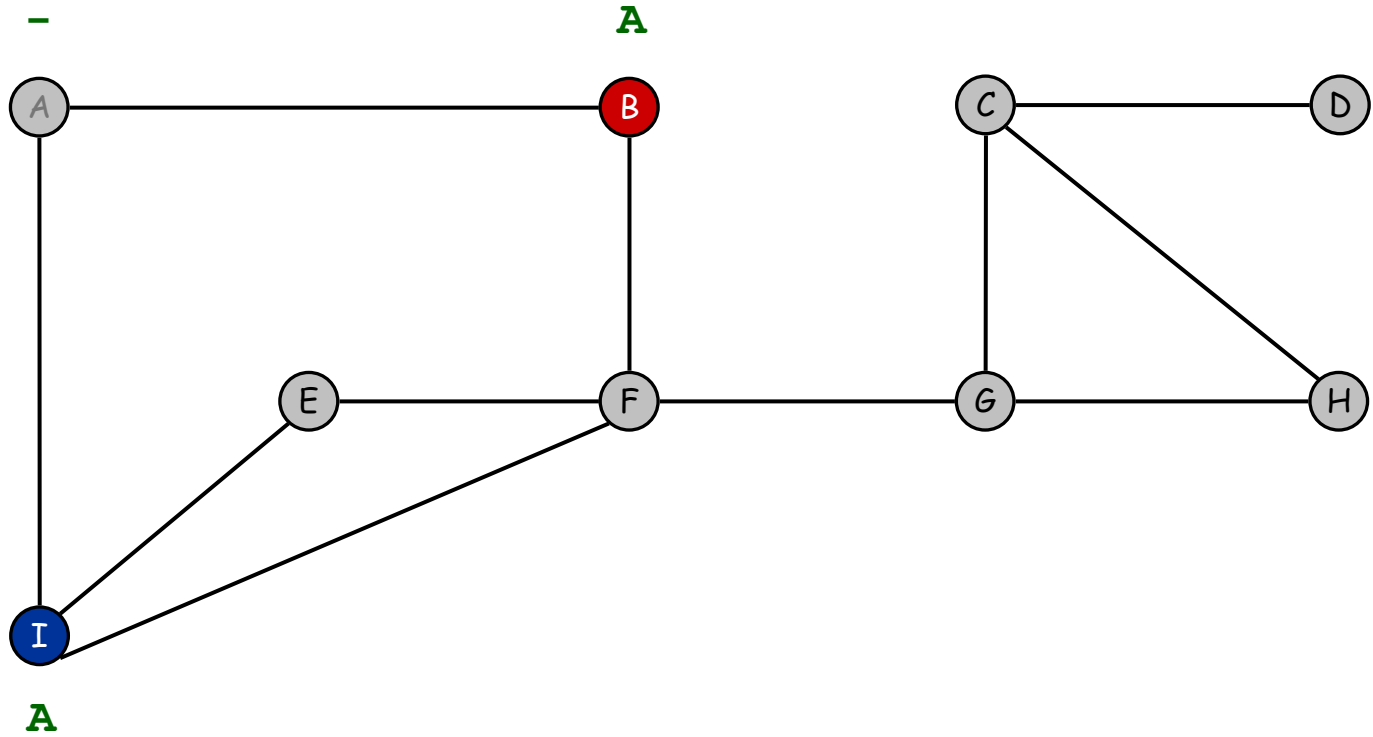
dequeue next vertex

front

B I

FIFO Queue

# Breadth First Search



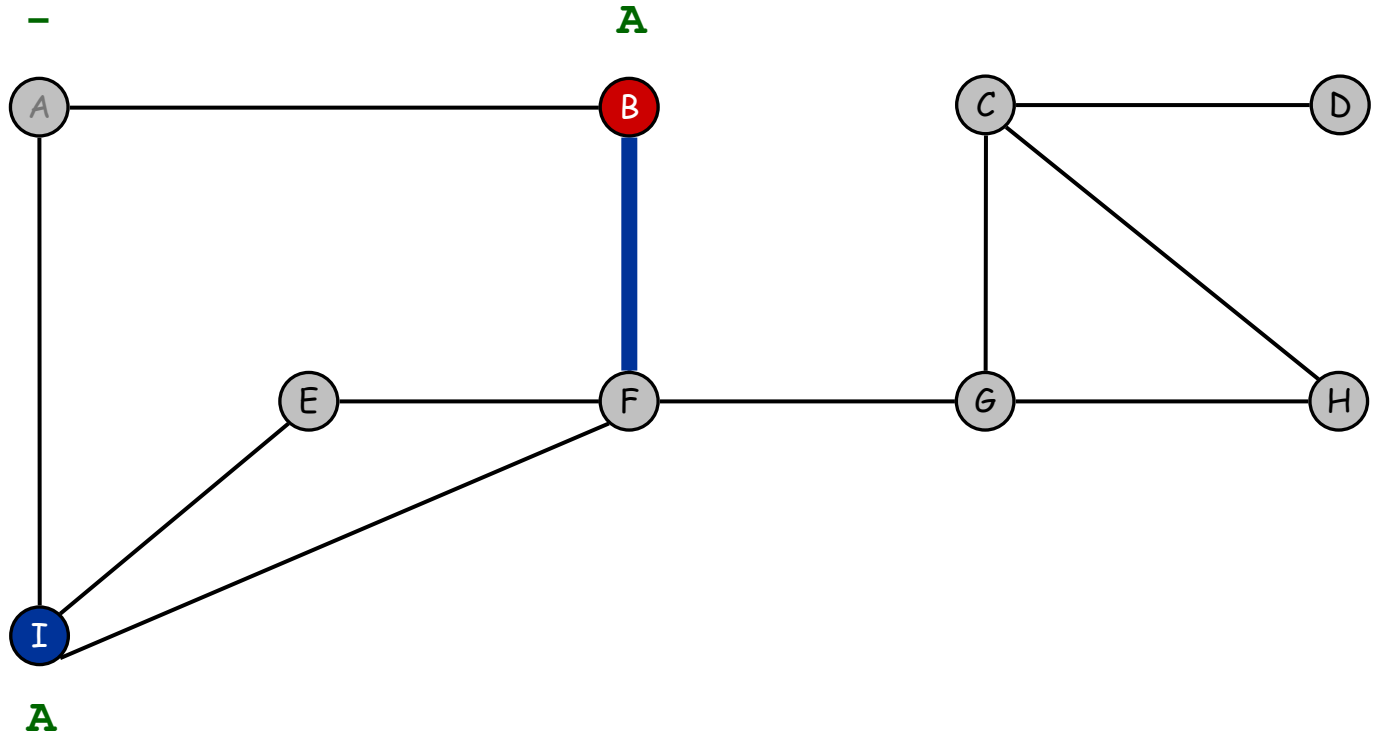
visit neighbors of B

front

I

FIFO Queue

# Breadth First Search



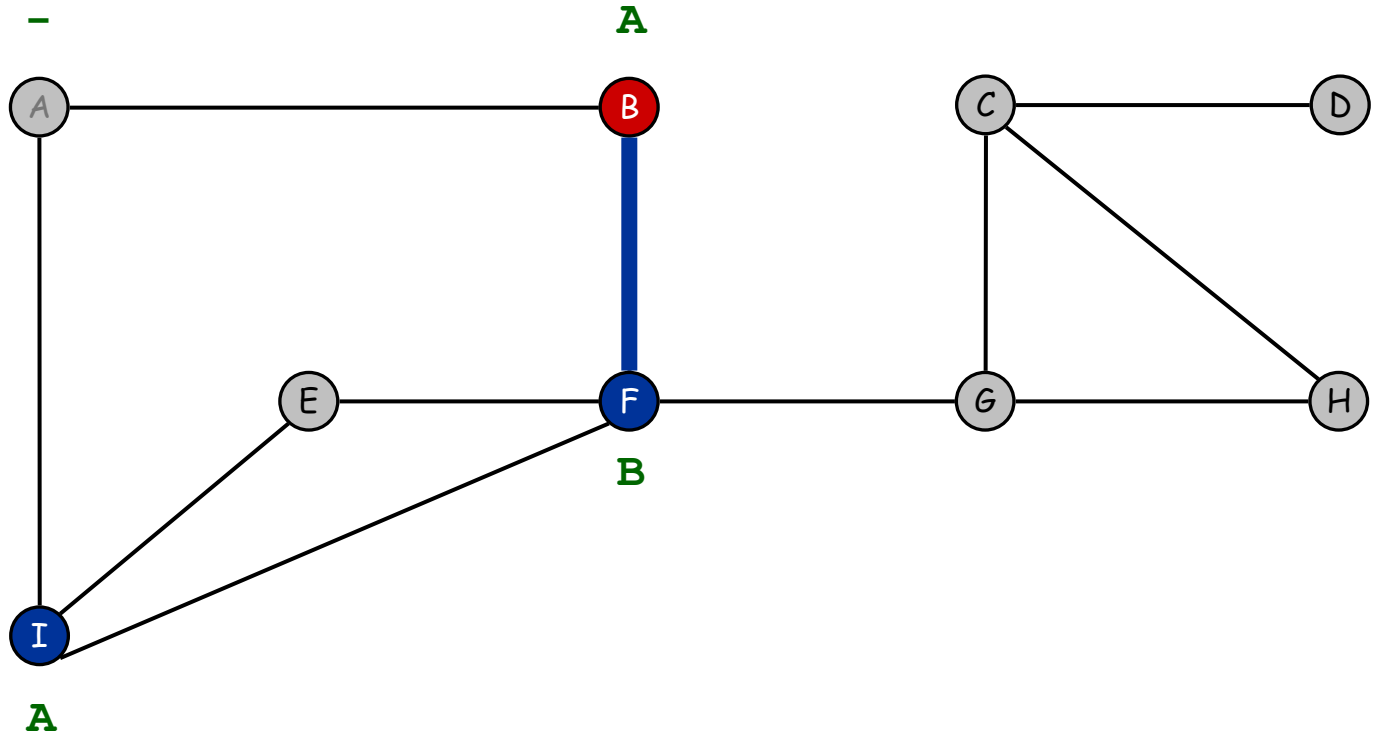
visit neighbors of B

front

I

FIFO Queue

# Breadth First Search



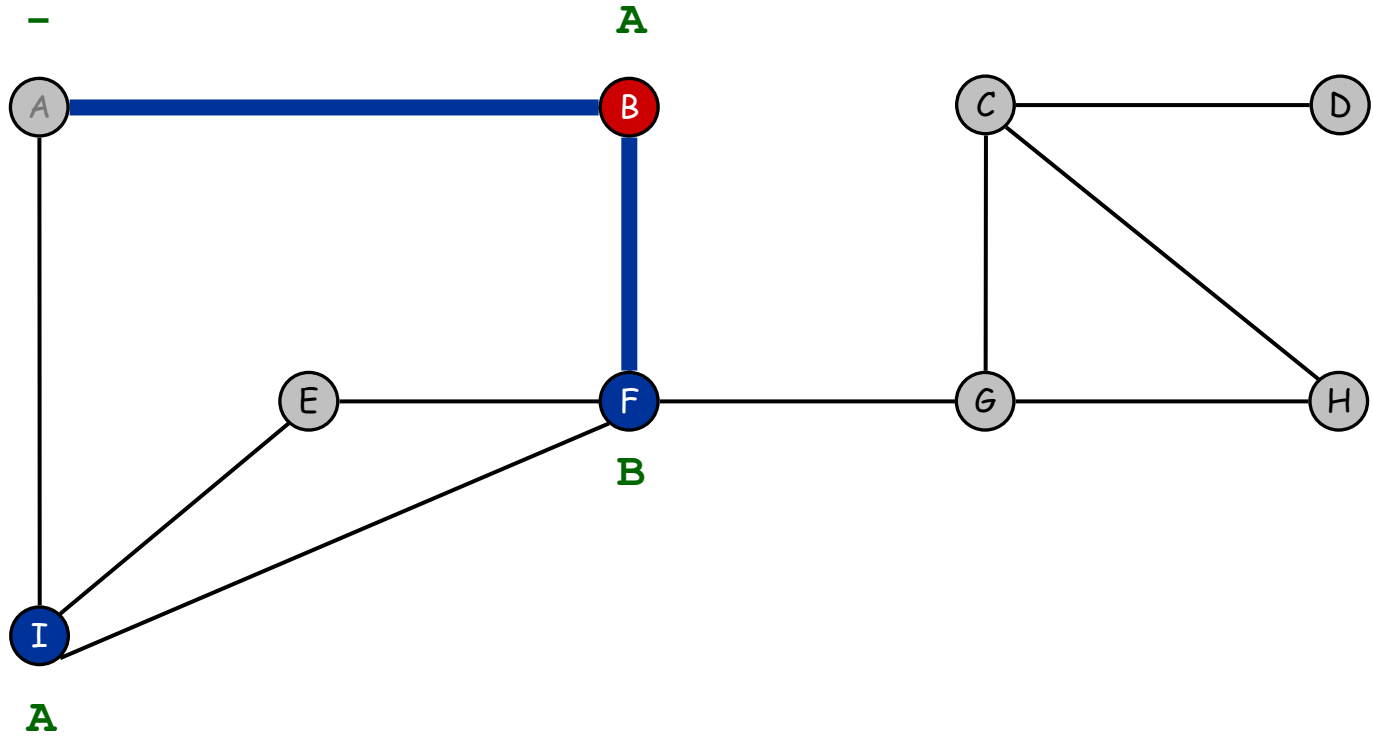
F discovered

front

I F

FIFO Queue

# Breadth First Search



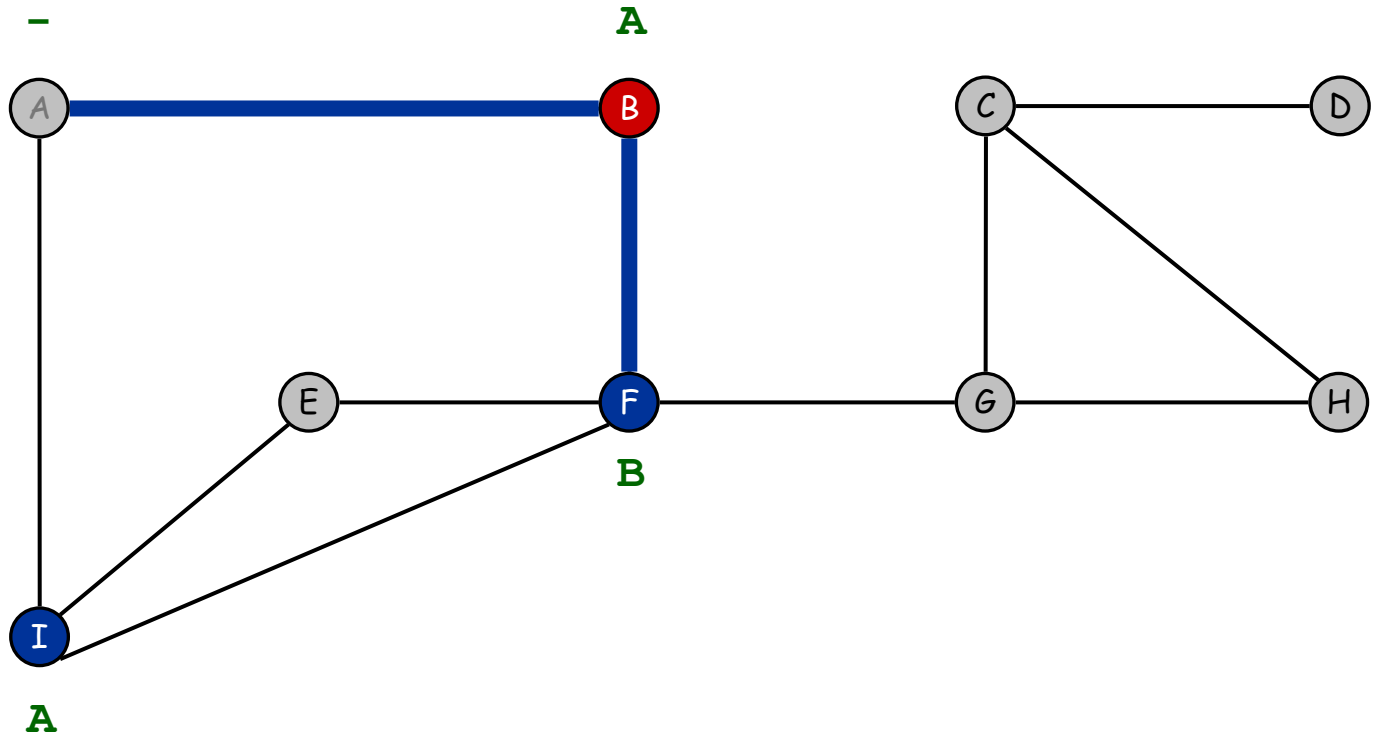
visit neighbors of B

front

I F

FIFO Queue

# Breadth First Search



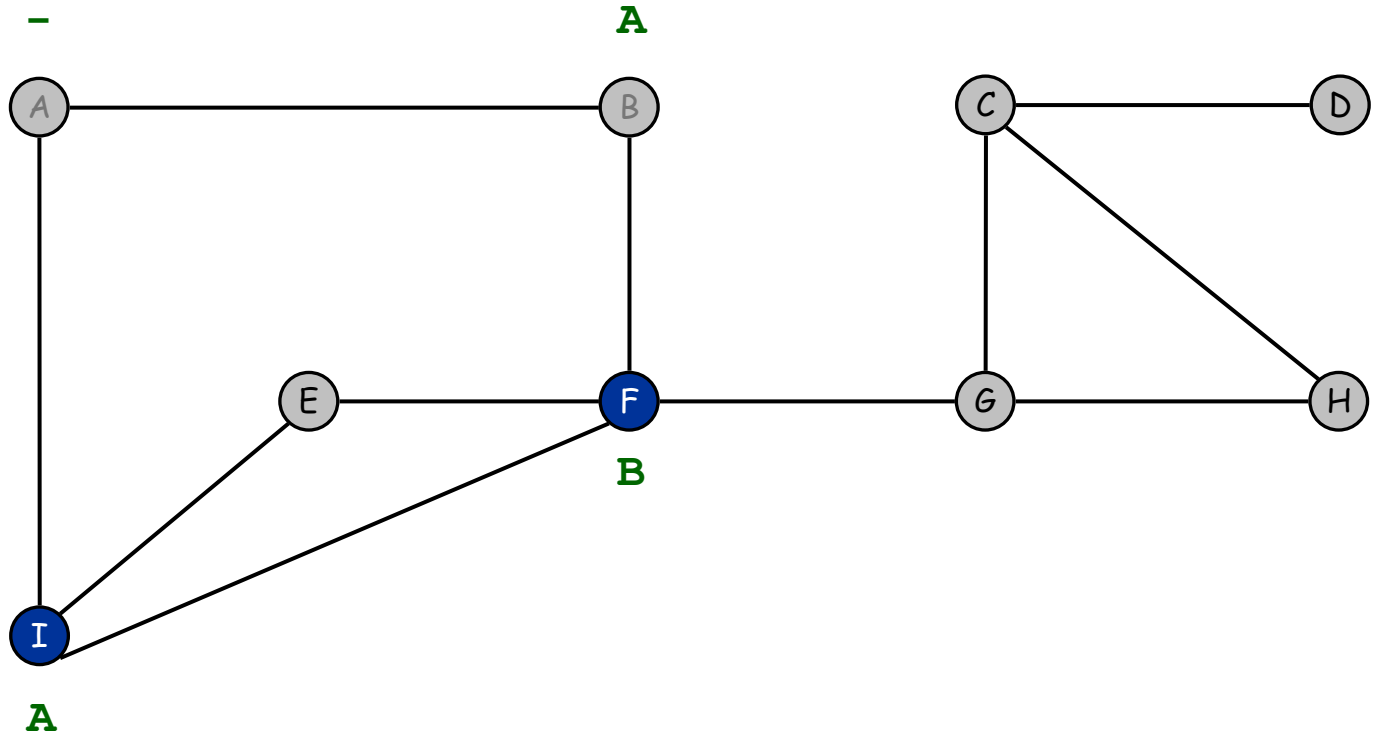
A already discovered

front

**I F**

## FIFO Queue

# Breadth First Search



finished with B

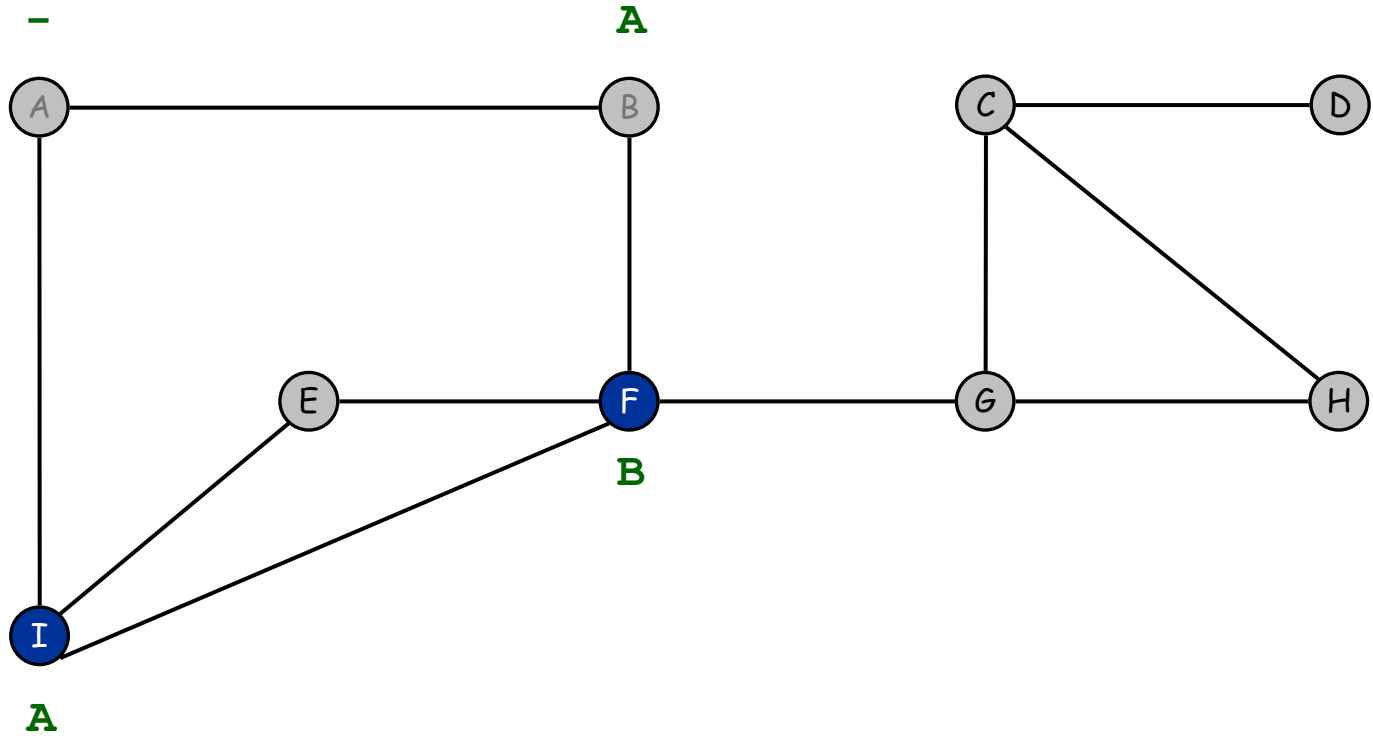
front

I F

FIFO Queue



# Breadth First Search



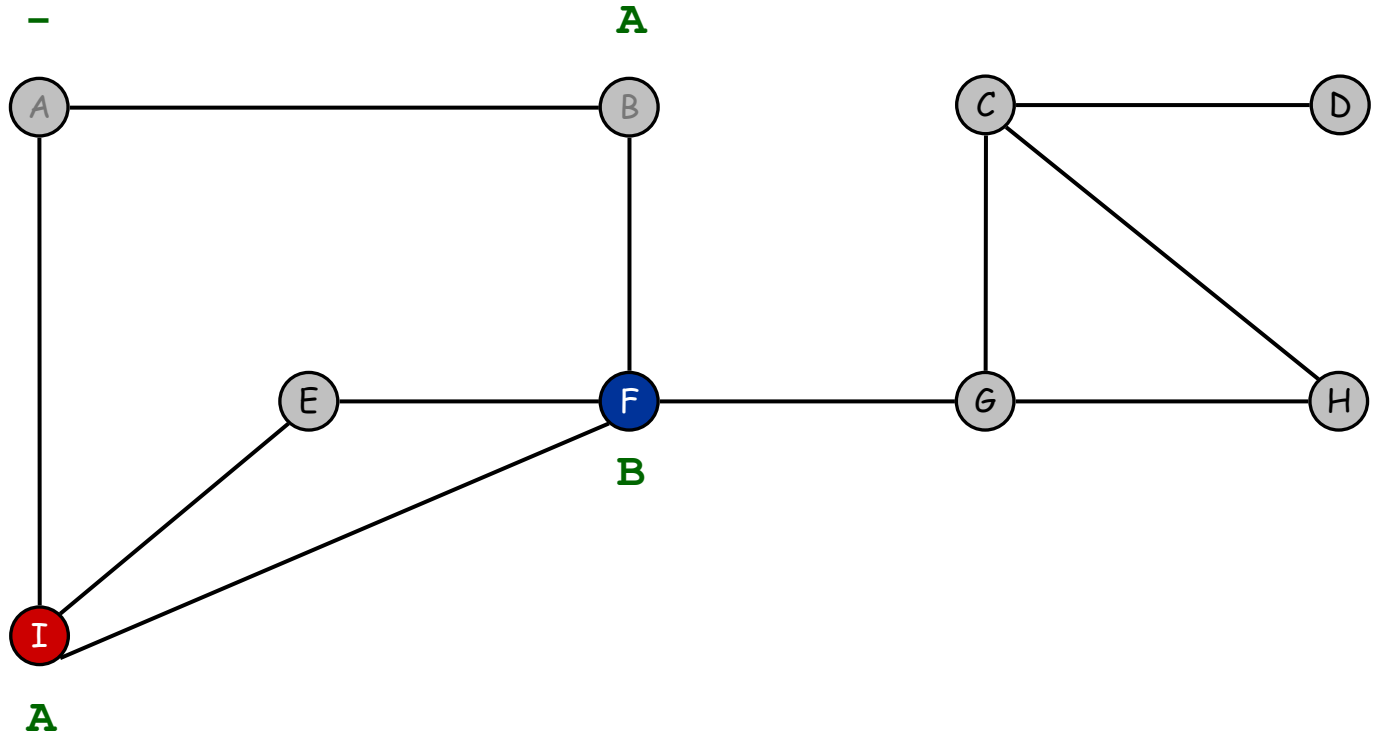
dequeue next vertex

front

I F

FIFO Queue

# Breadth First Search



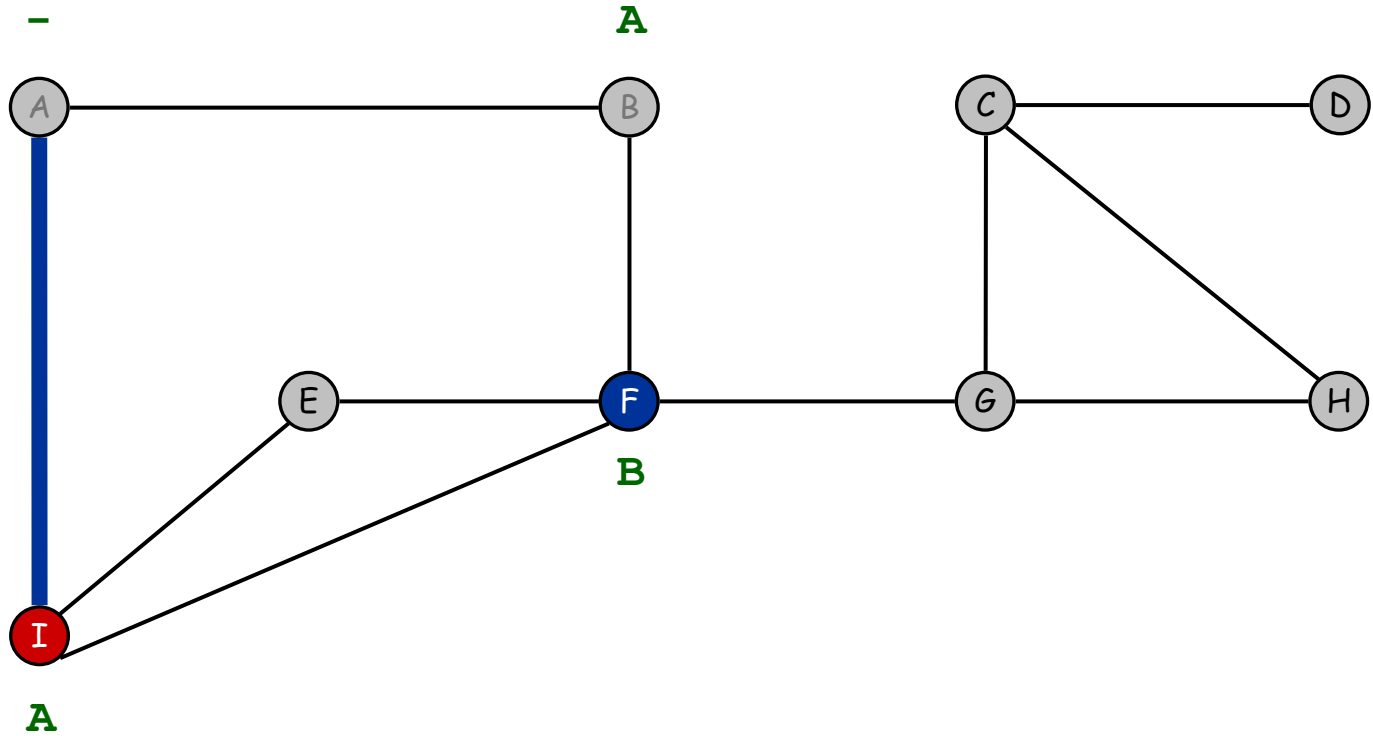
visit neighbors of I

front

**F**

FIFO Queue

# Breadth First Search



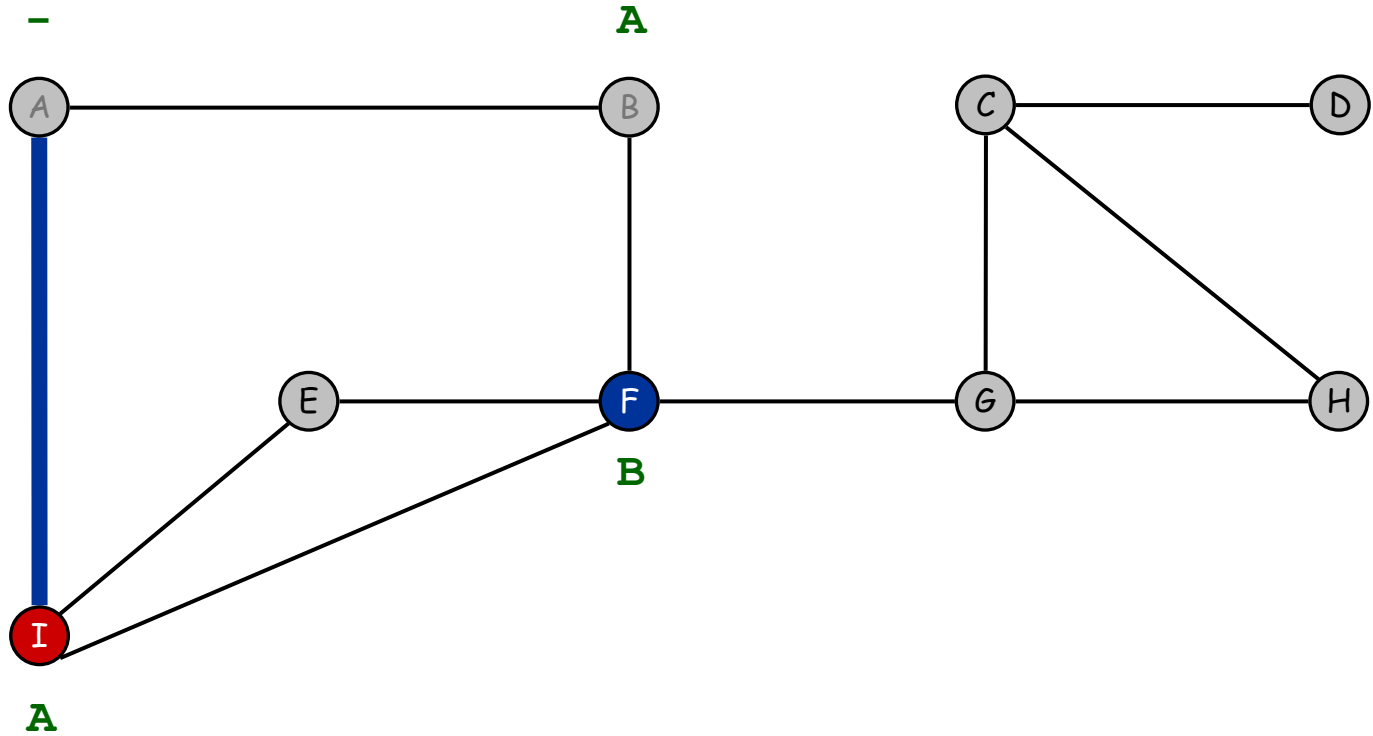
visit neighbors of I

front

**F**

FIFO Queue

# Breadth First Search



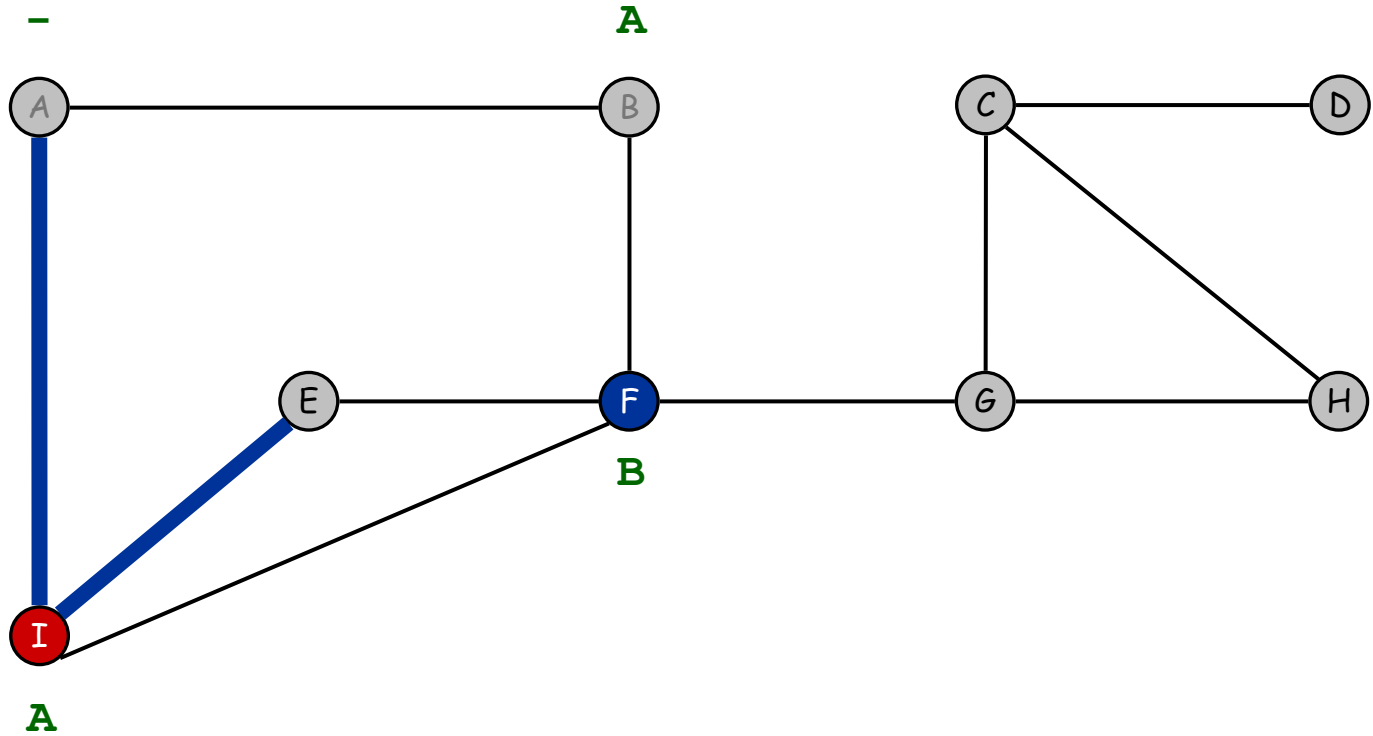
A already discovered

front

**F**

FIFO Queue

# Breadth First Search



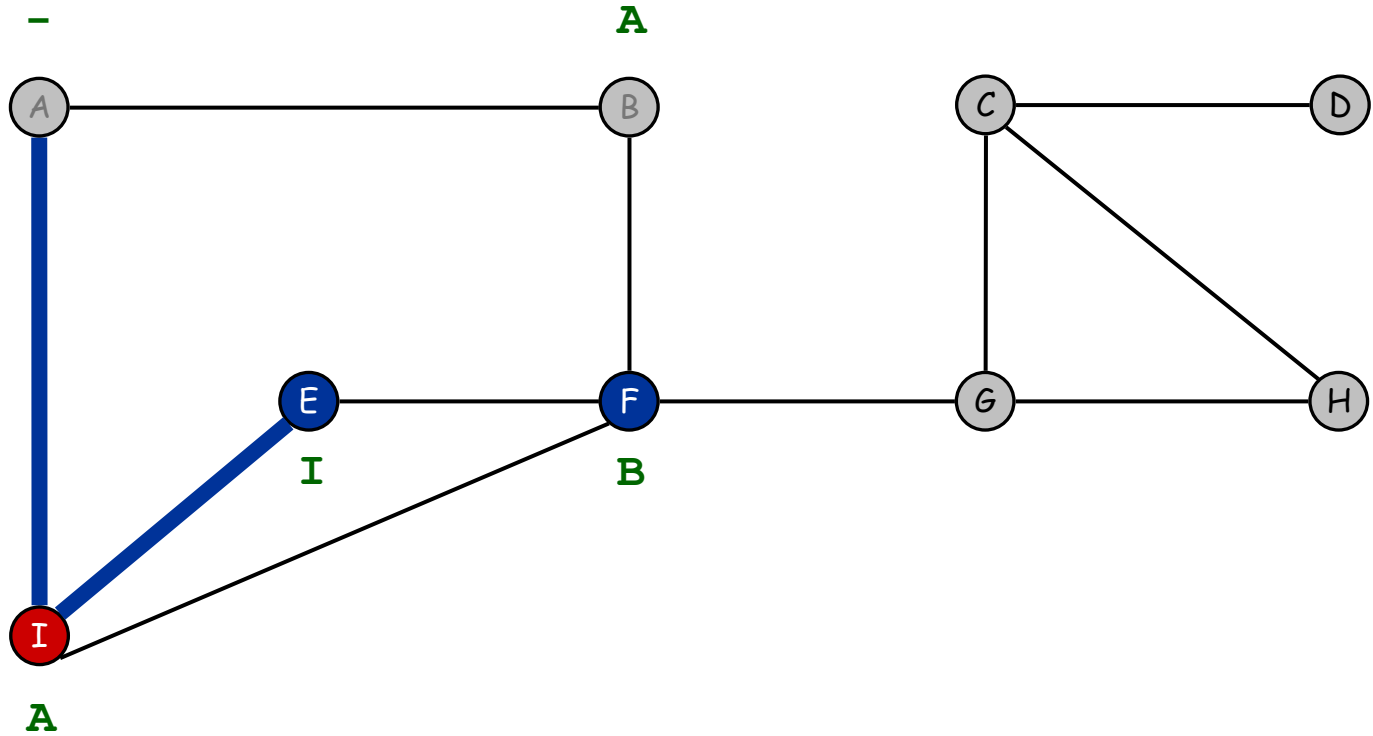
visit neighbors of I

front

**F**

FIFO Queue

# Breadth First Search



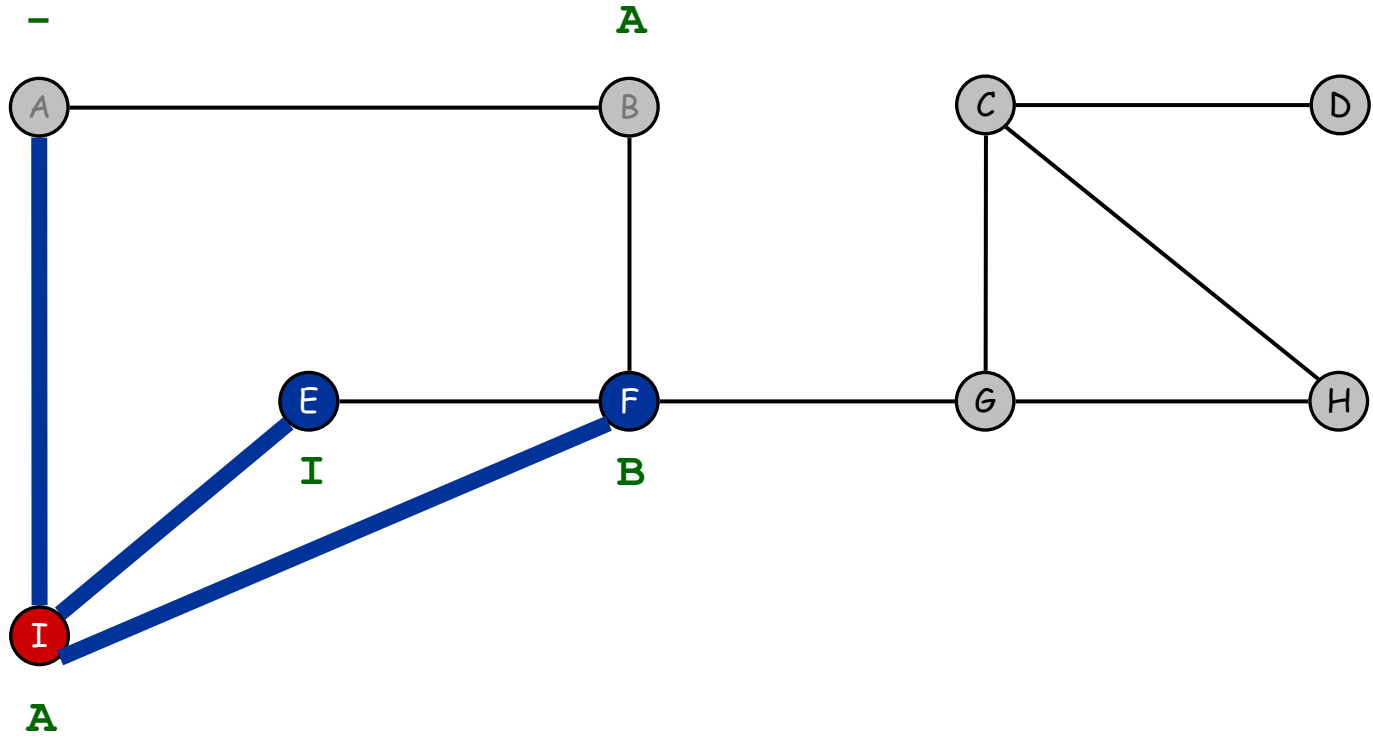
E discovered

front

**F E**

FIFO Queue

# Breadth First Search



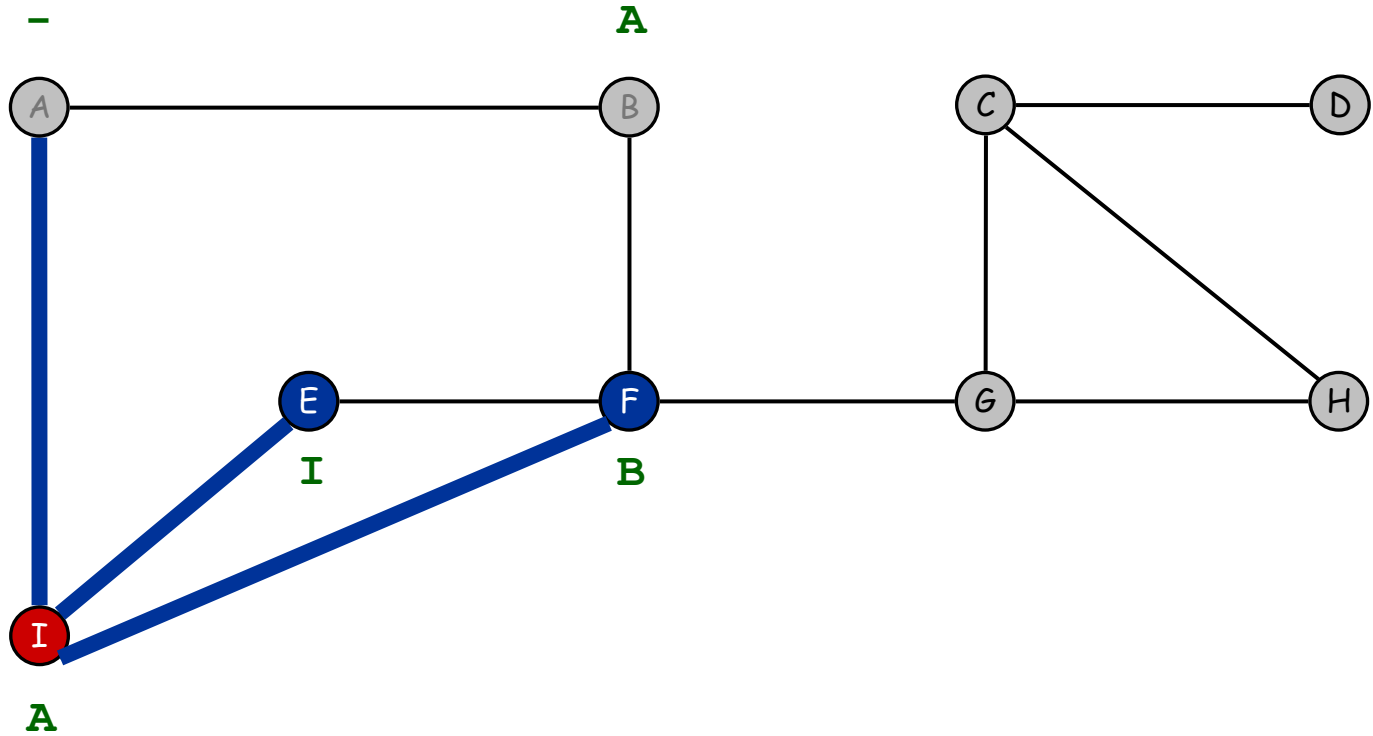
visit neighbors of I

front

**F E**

FIFO Queue

# Breadth First Search



F already discovered

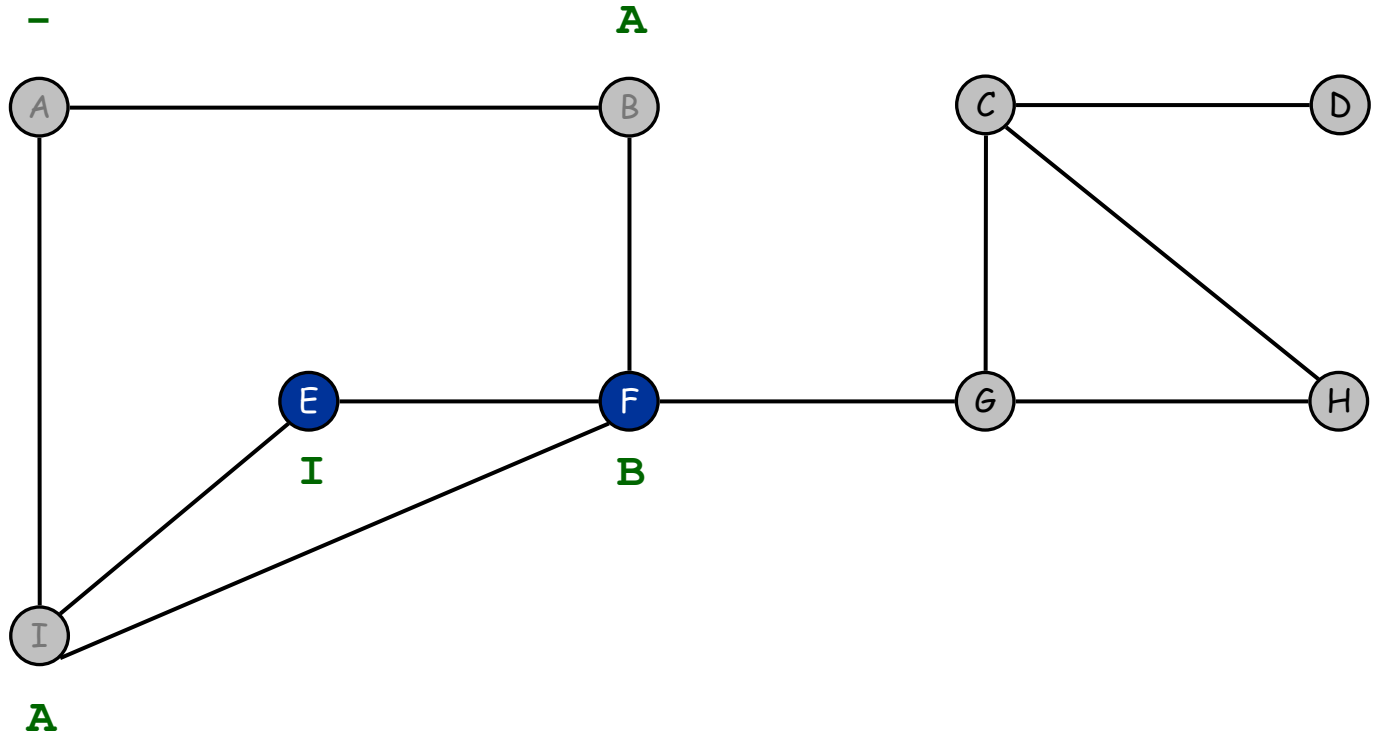
front

**F E**

FIFO Queue



# Breadth First Search



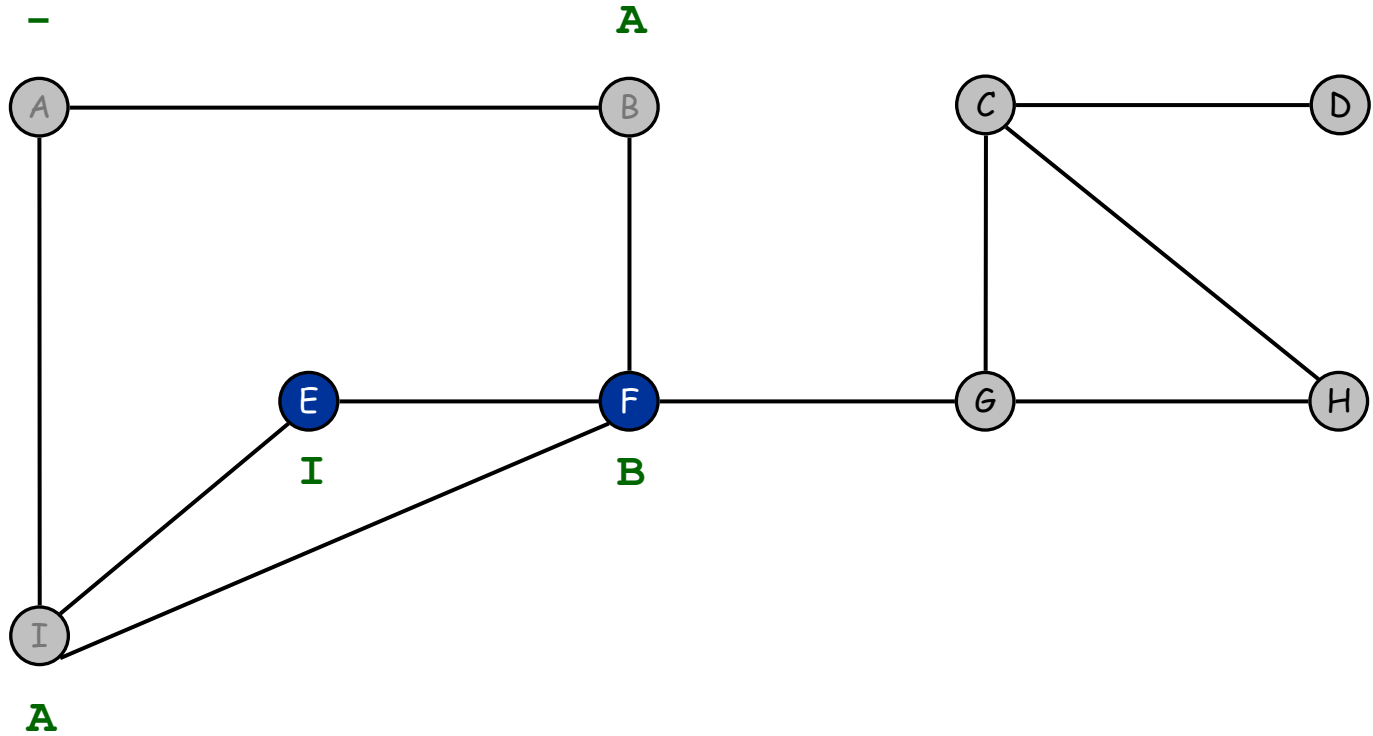
I finished

front

**F E**

FIFO Queue

# Breadth First Search



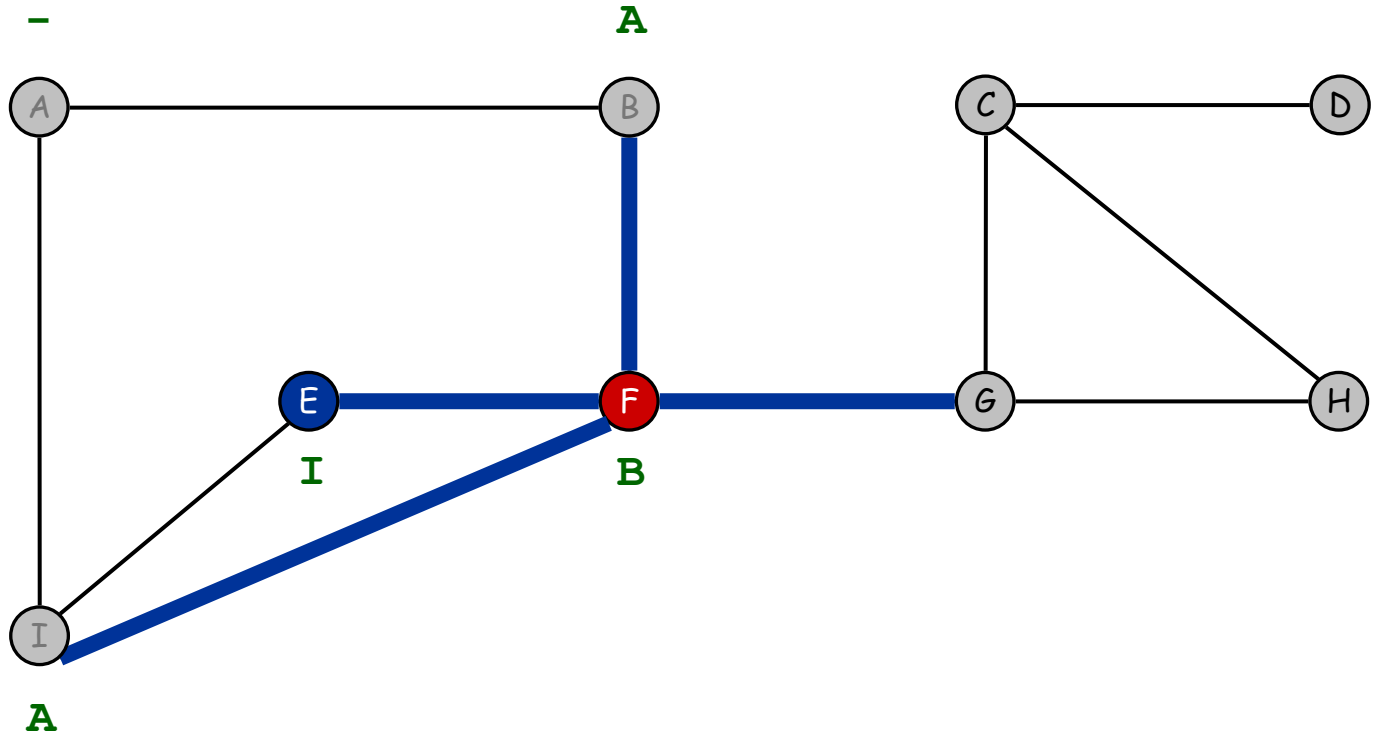
dequeue next vertex

front

**F E**

FIFO Queue

# Breadth First Search



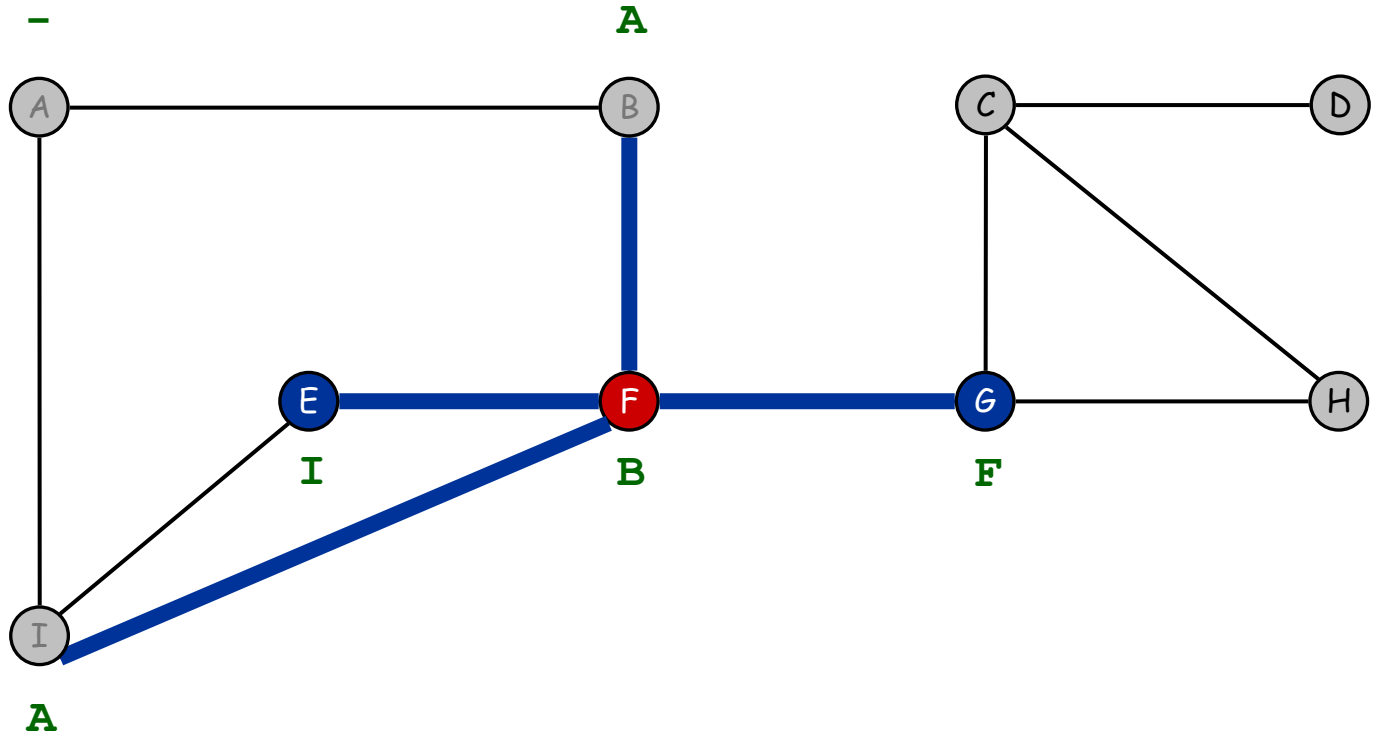
visit neighbors of F

front

**E**

FIFO Queue

# Breadth First Search



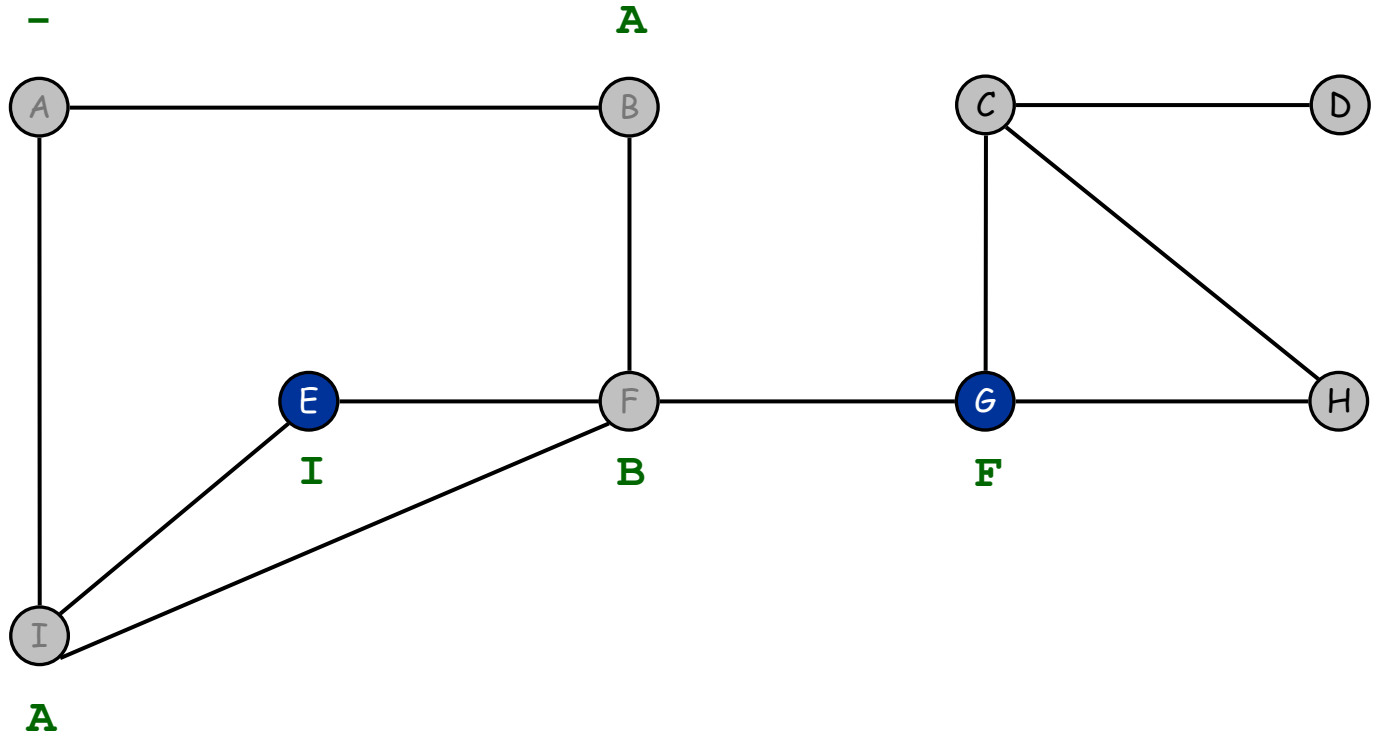
G discovered

front

E G

FIFO Queue

# Breadth First Search



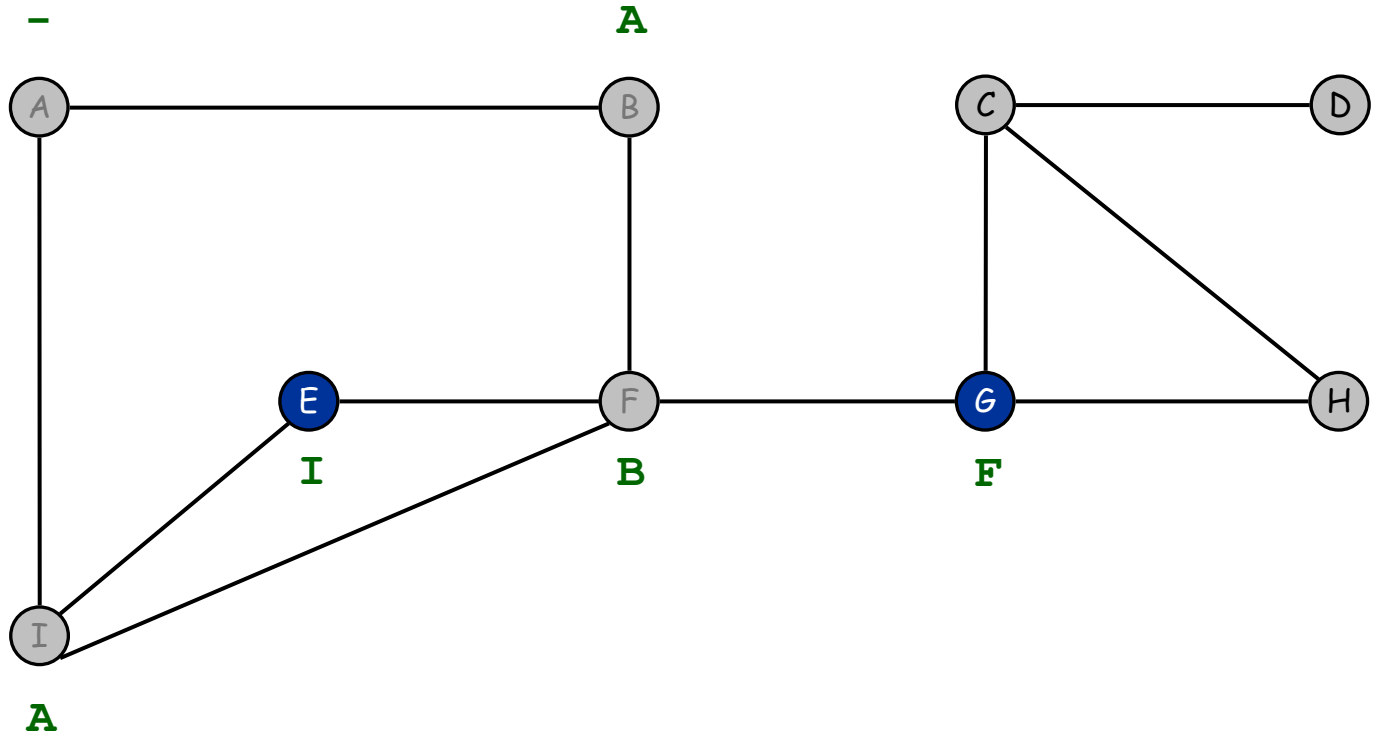
F finished

front

E G

FIFO Queue

# Breadth First Search



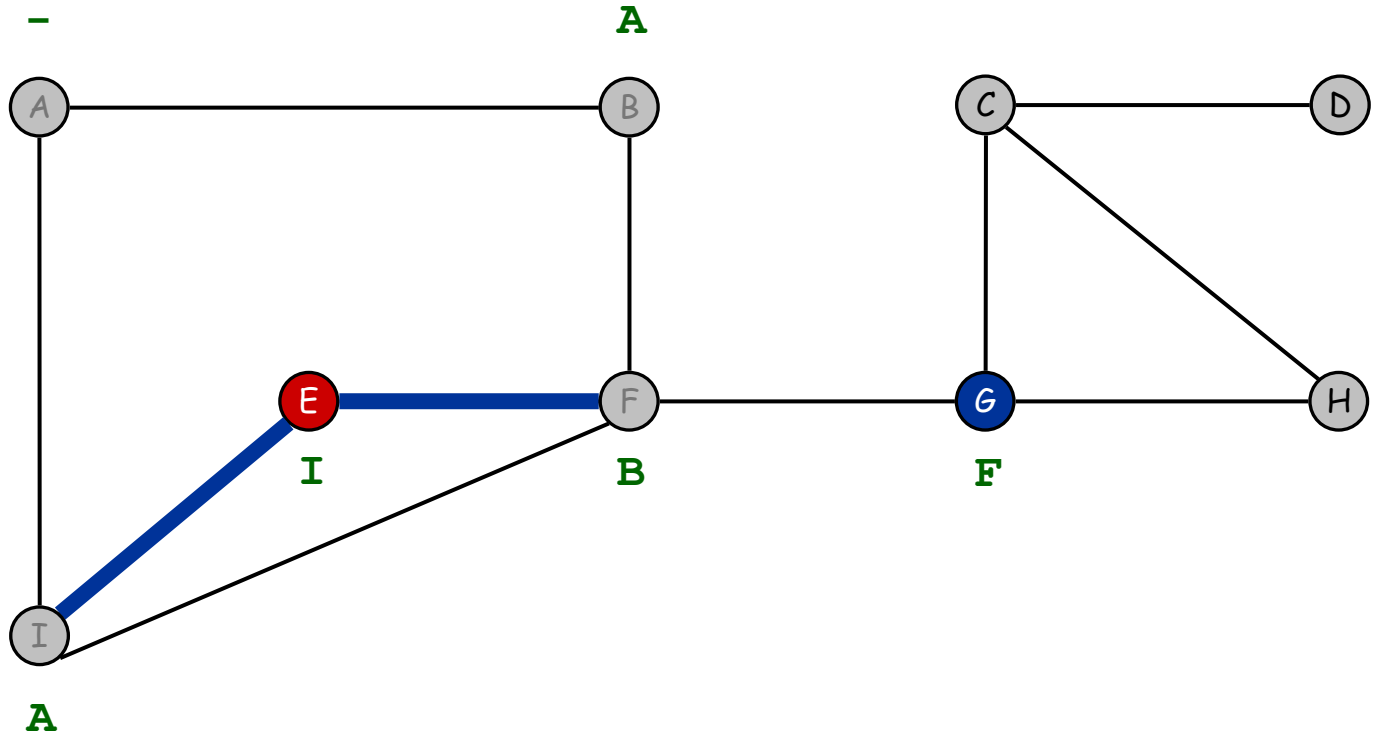
dequeue next vertex

front

**E G**

FIFO Queue

# Breadth First Search



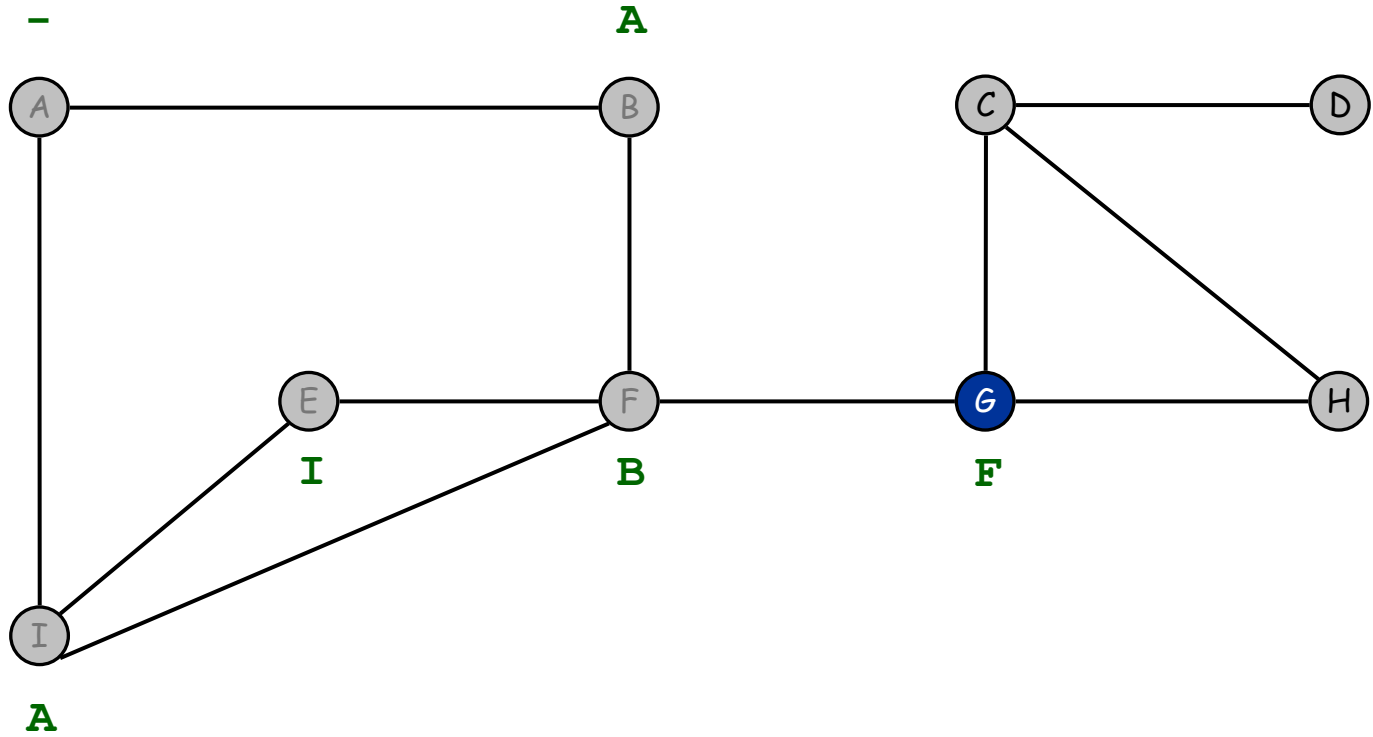
visit neighbors of E

front

G

FIFO Queue

# Breadth First Search



E finished

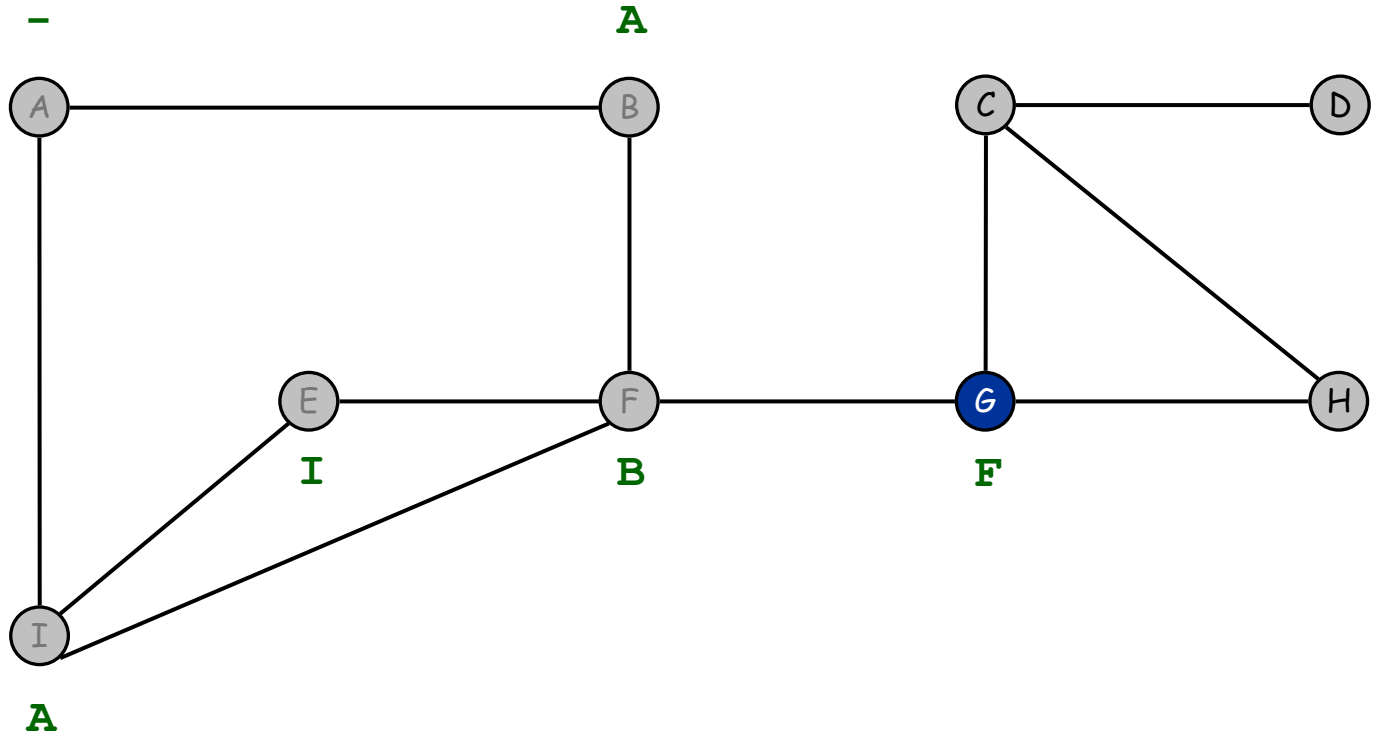
front

G

FIFO Queue



# Breadth First Search



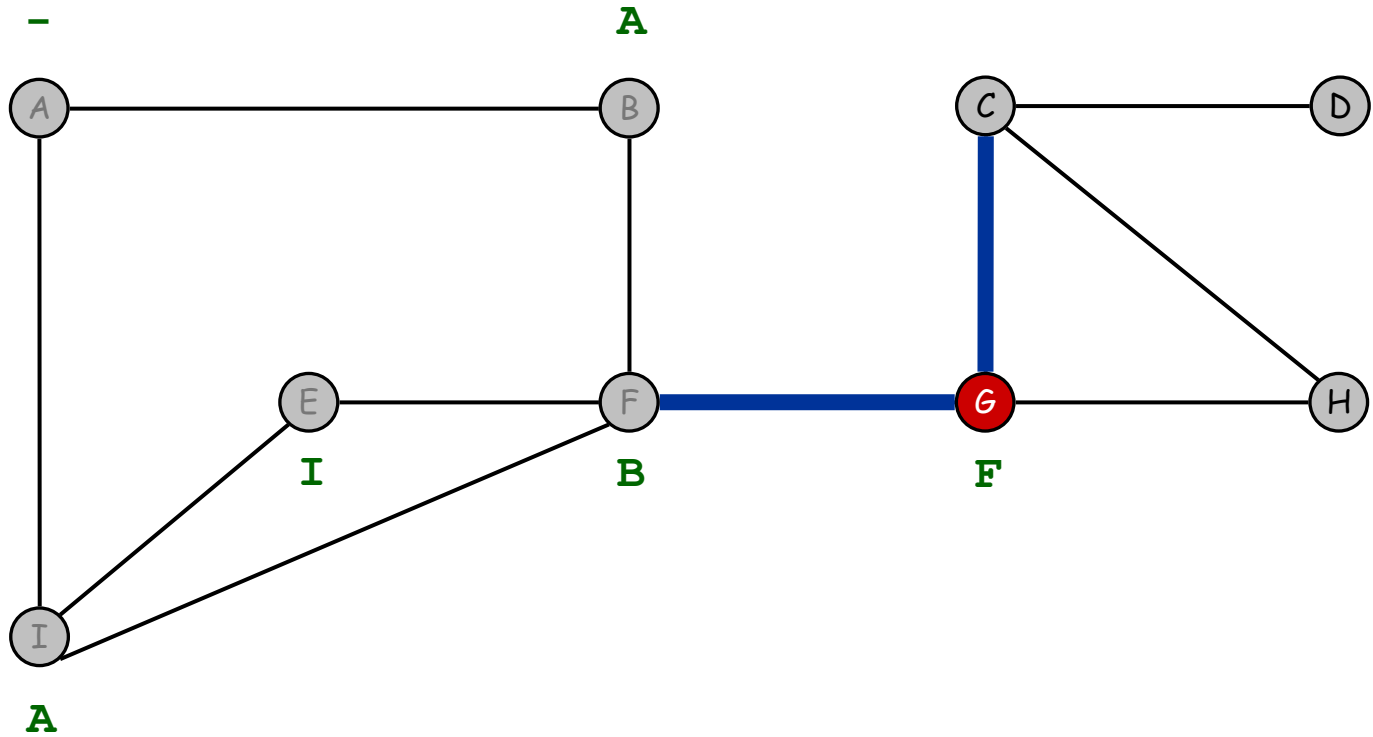
dequeue next vertex

front

G

FIFO Queue

# Breadth First Search

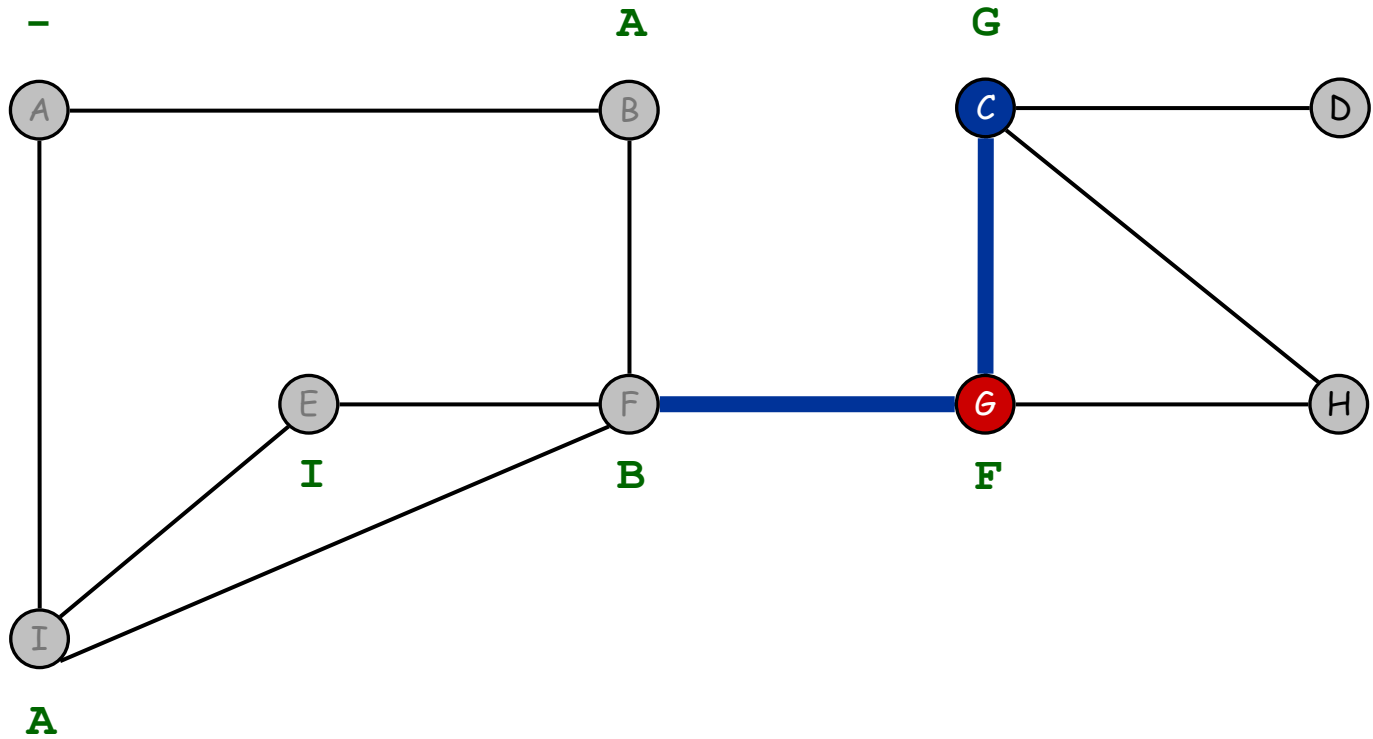


visit neighbors of  $G$

front

## FIFO Queue

# Breadth First Search



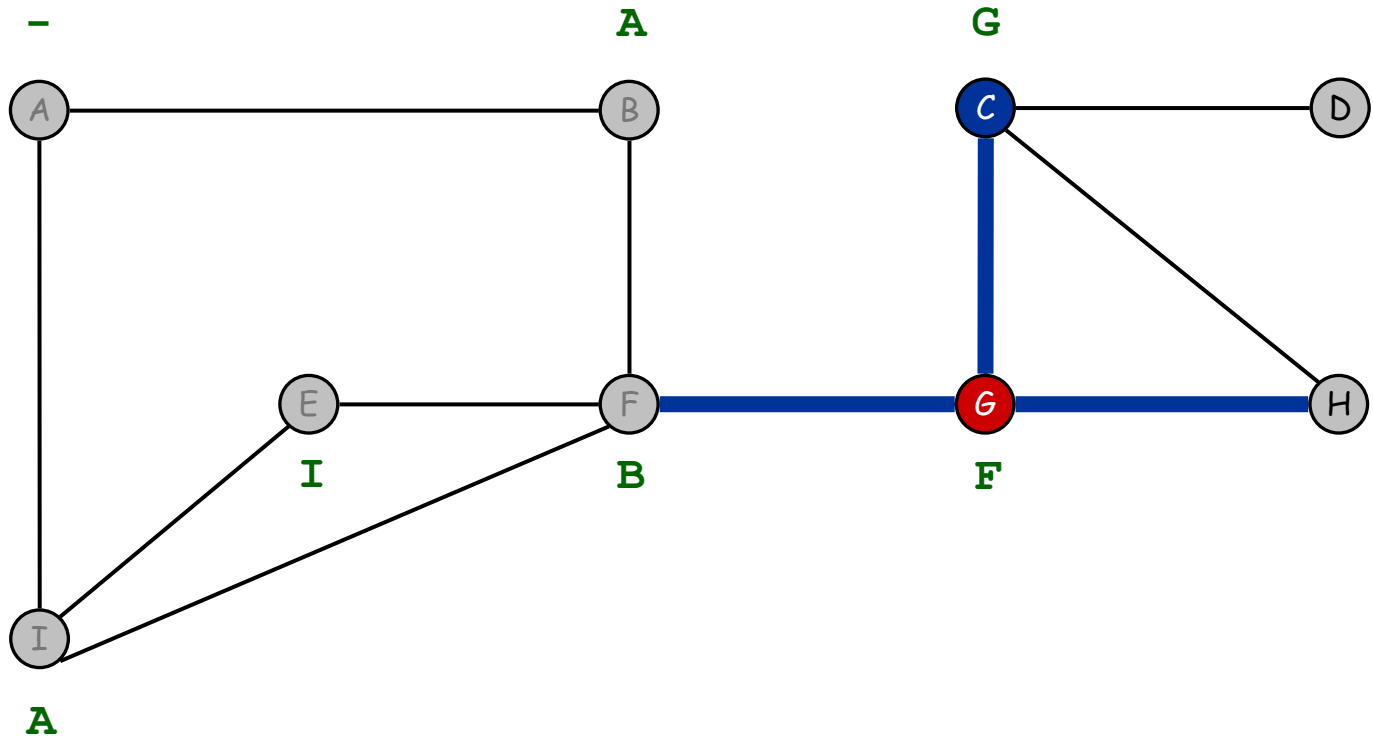
C discovered

front

C

FIFO Queue

# Breadth First Search



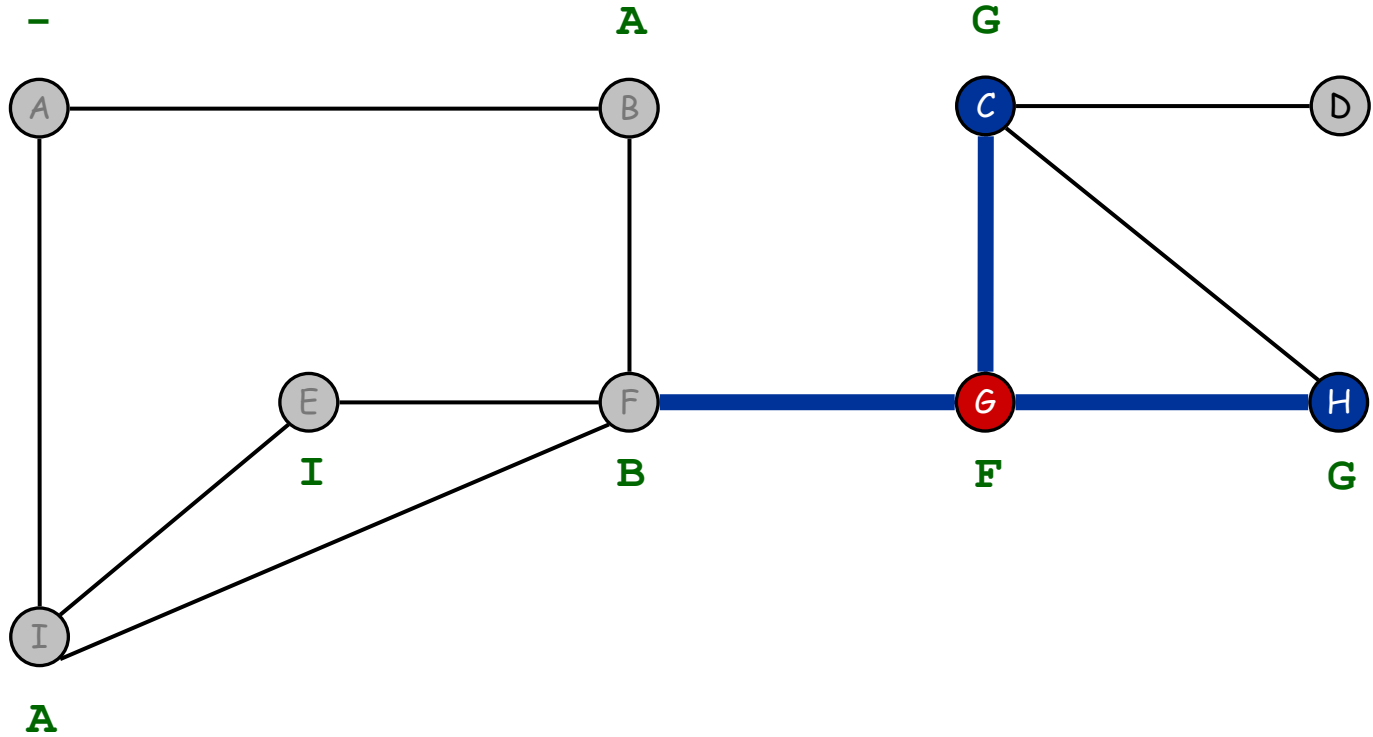
visit neighbors of G

front

C

FIFO Queue

# Breadth First Search



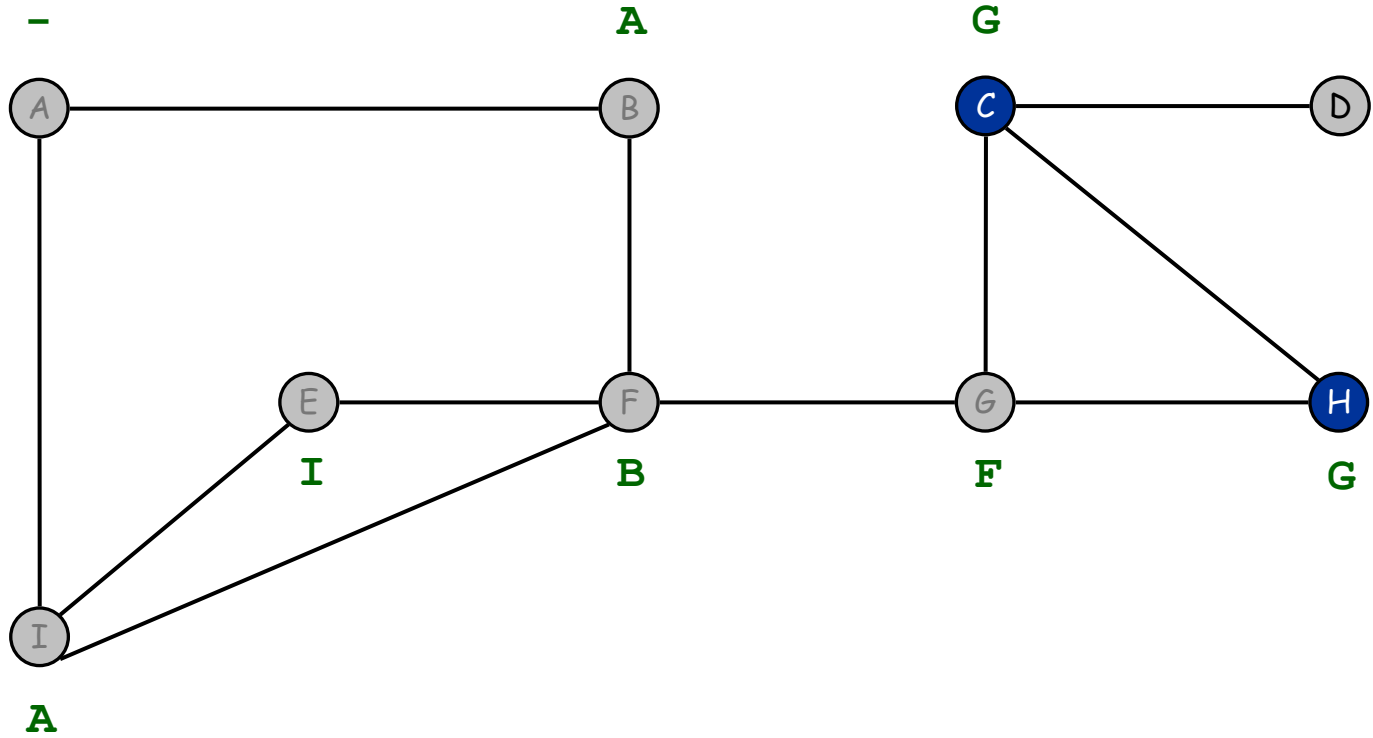
H discovered

front

C H

FIFO Queue

# Breadth First Search



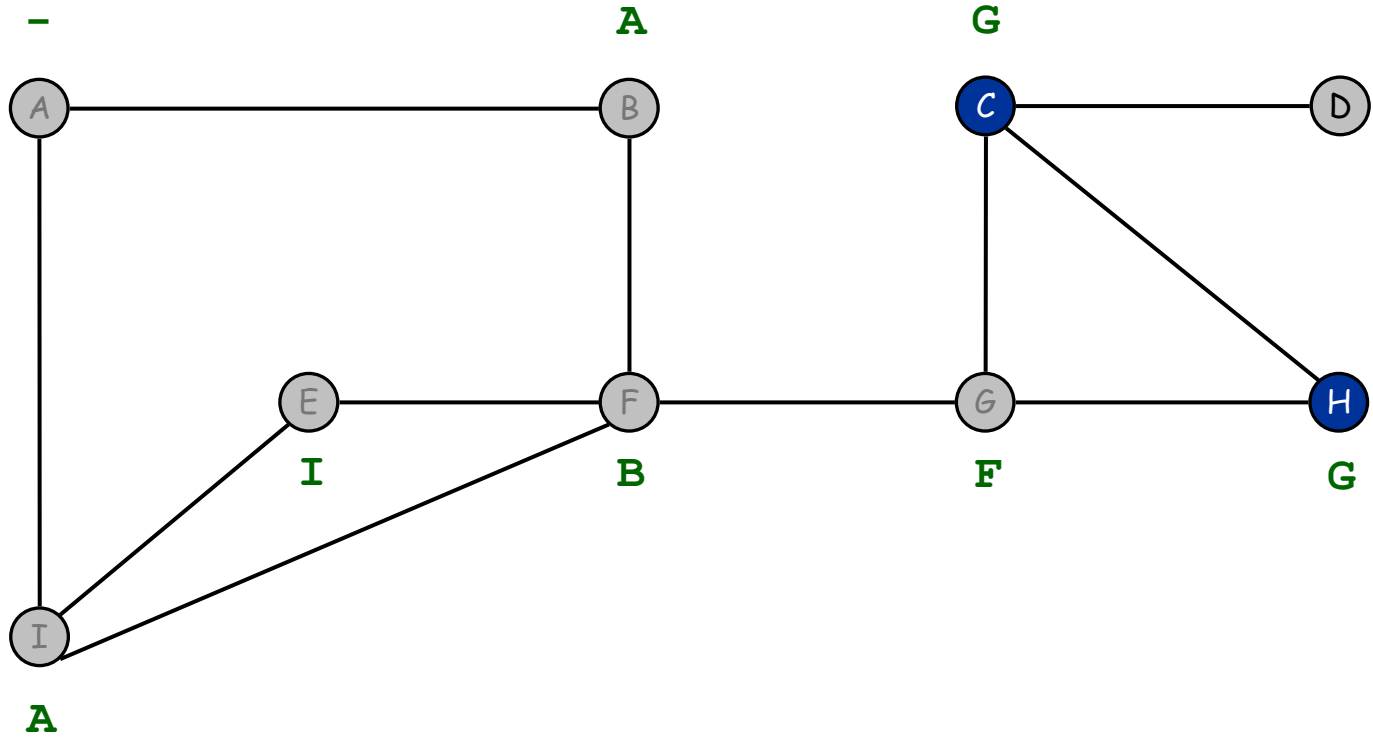
G finished

front

C H

FIFO Queue

# Breadth First Search



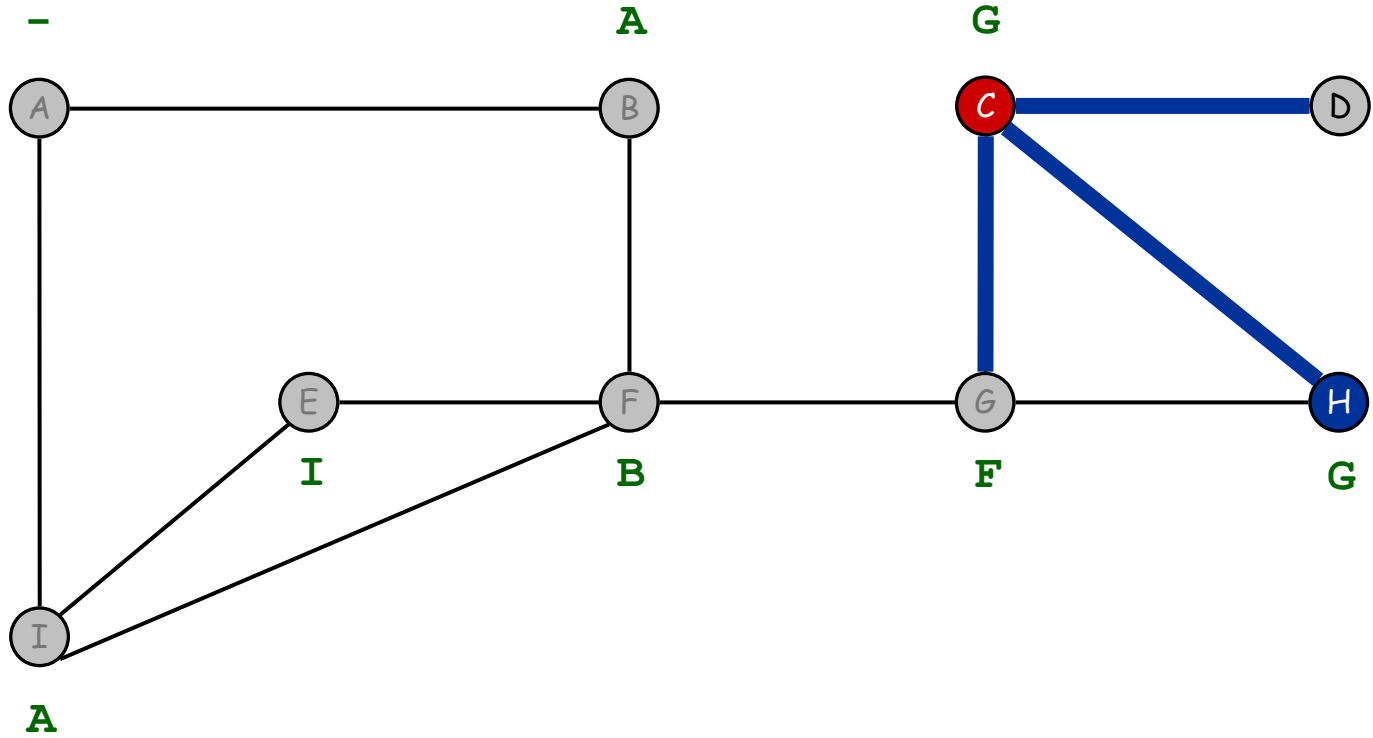
dequeue next vertex

front

C H

FIFO Queue

# Breadth First Search



visit neighbors of C

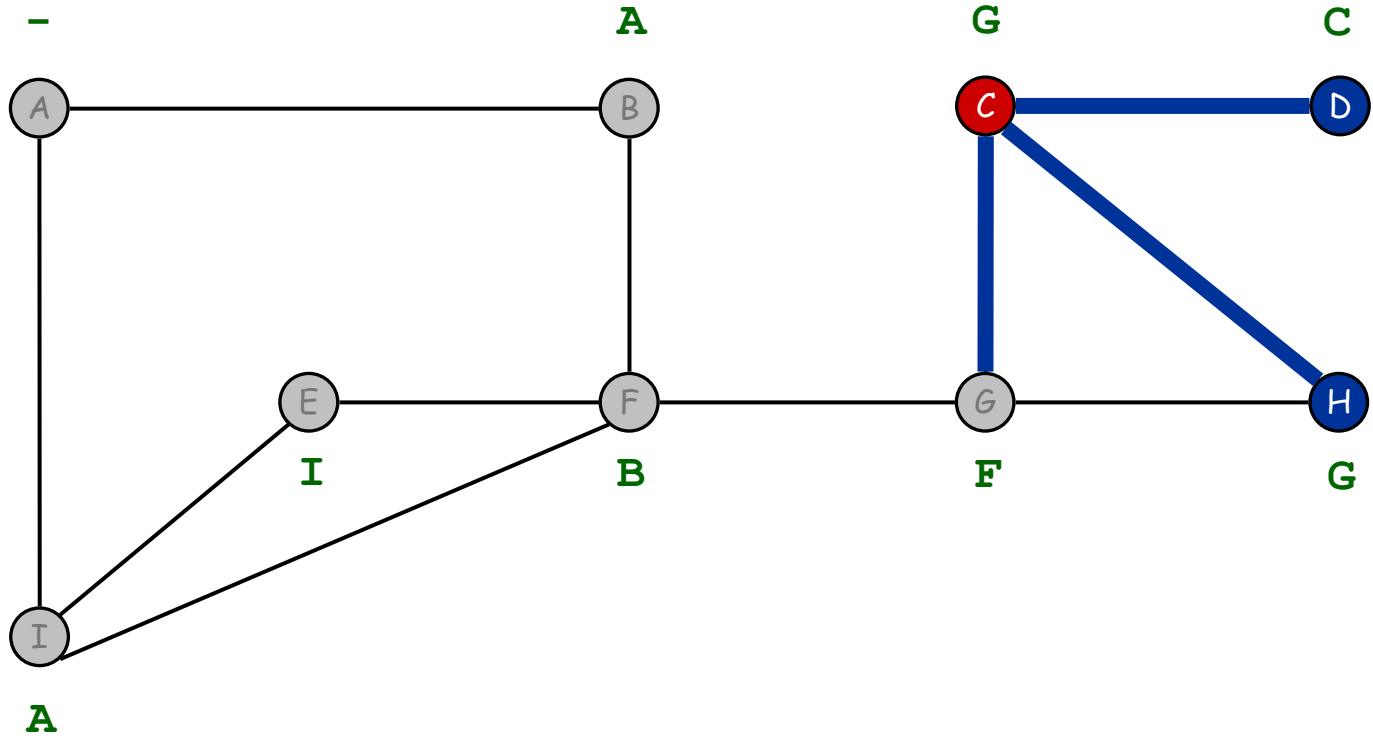
front

H

FIFO Queue



# Breadth First Search



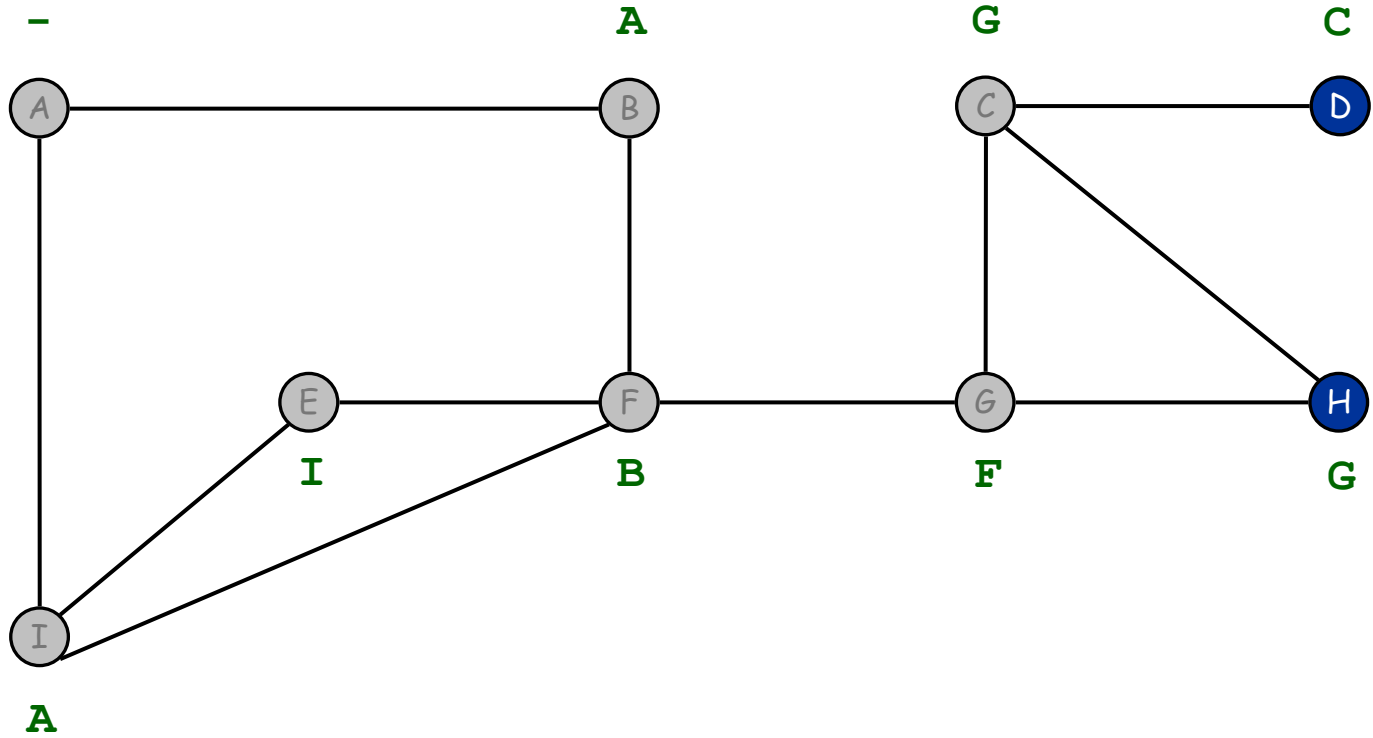
D discovered

front

H D

FIFO Queue

# Breadth First Search



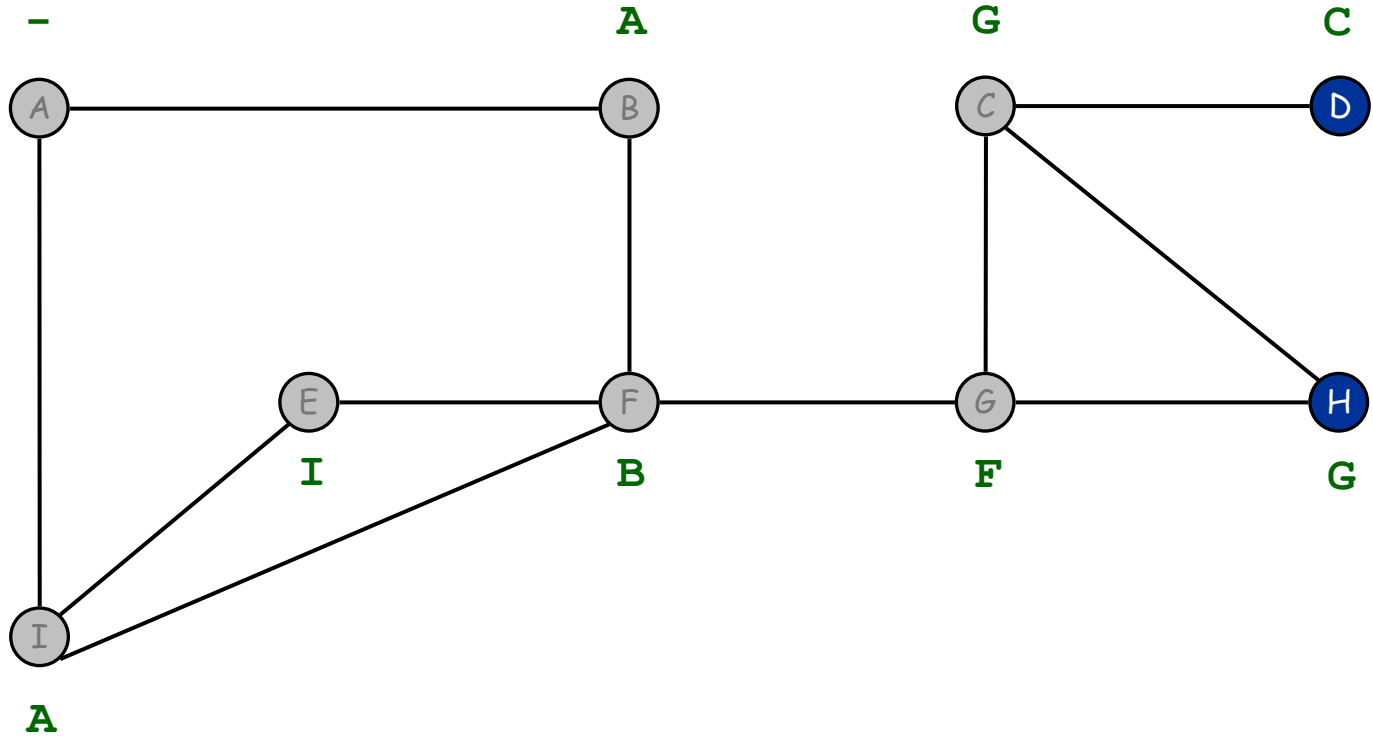
C finished

front

H D

FIFO Queue

# Breadth First Search



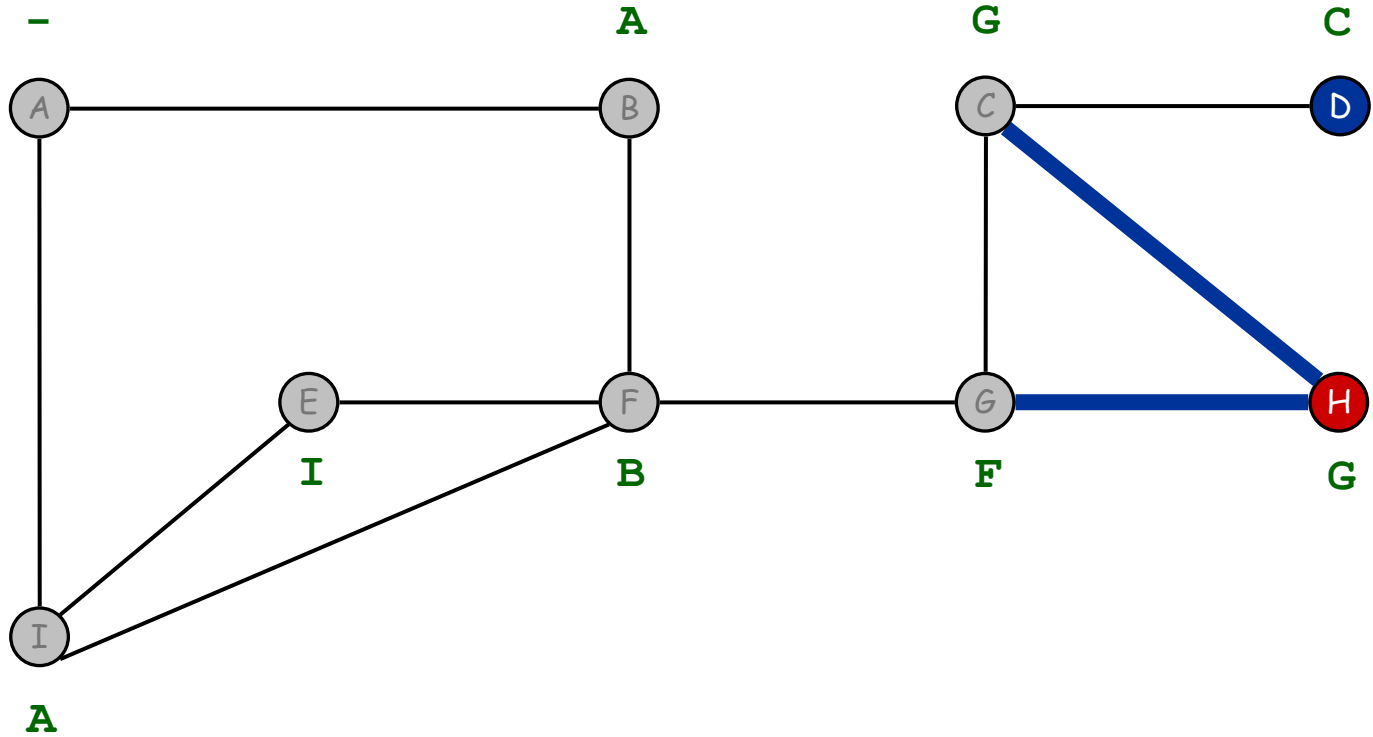
get next vertex

front

H D

FIFO Queue

# Breadth First Search



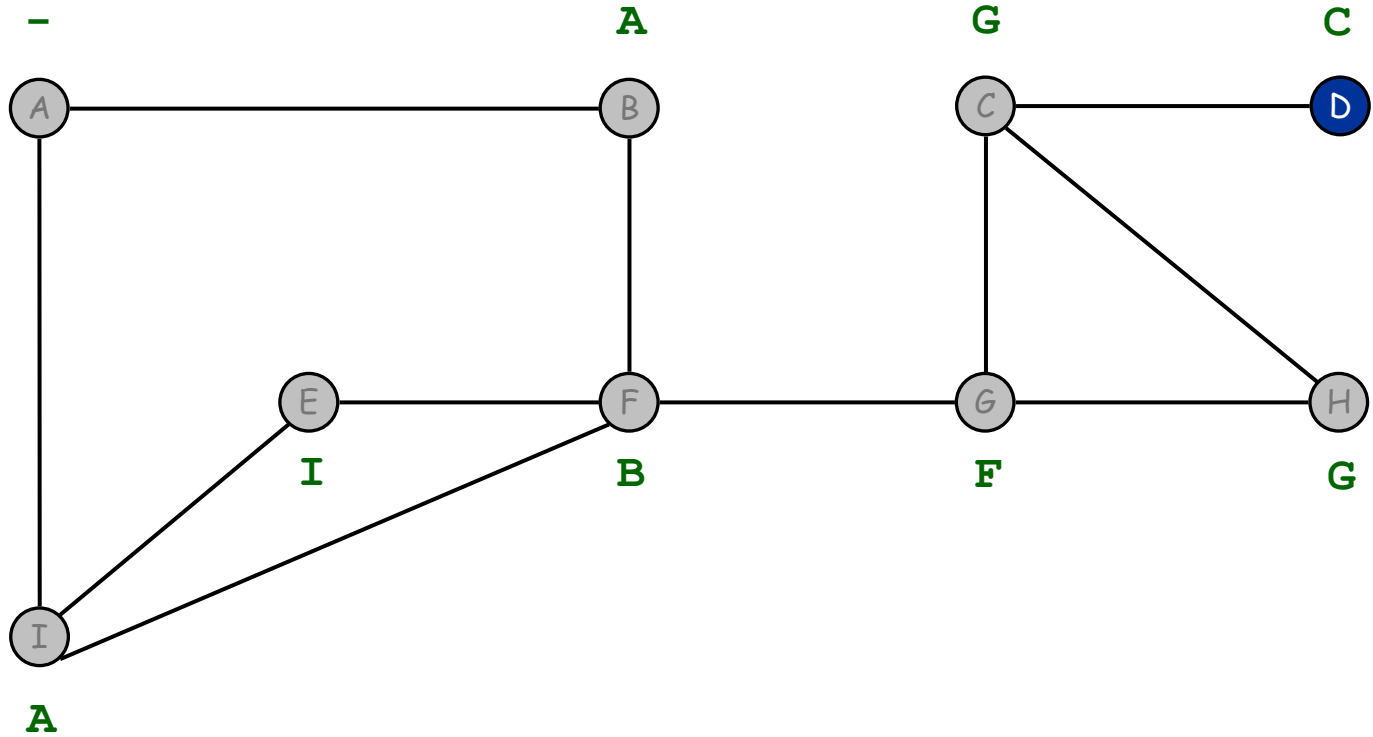
visit neighbors of H

front

D

FIFO Queue

# Breadth First Search



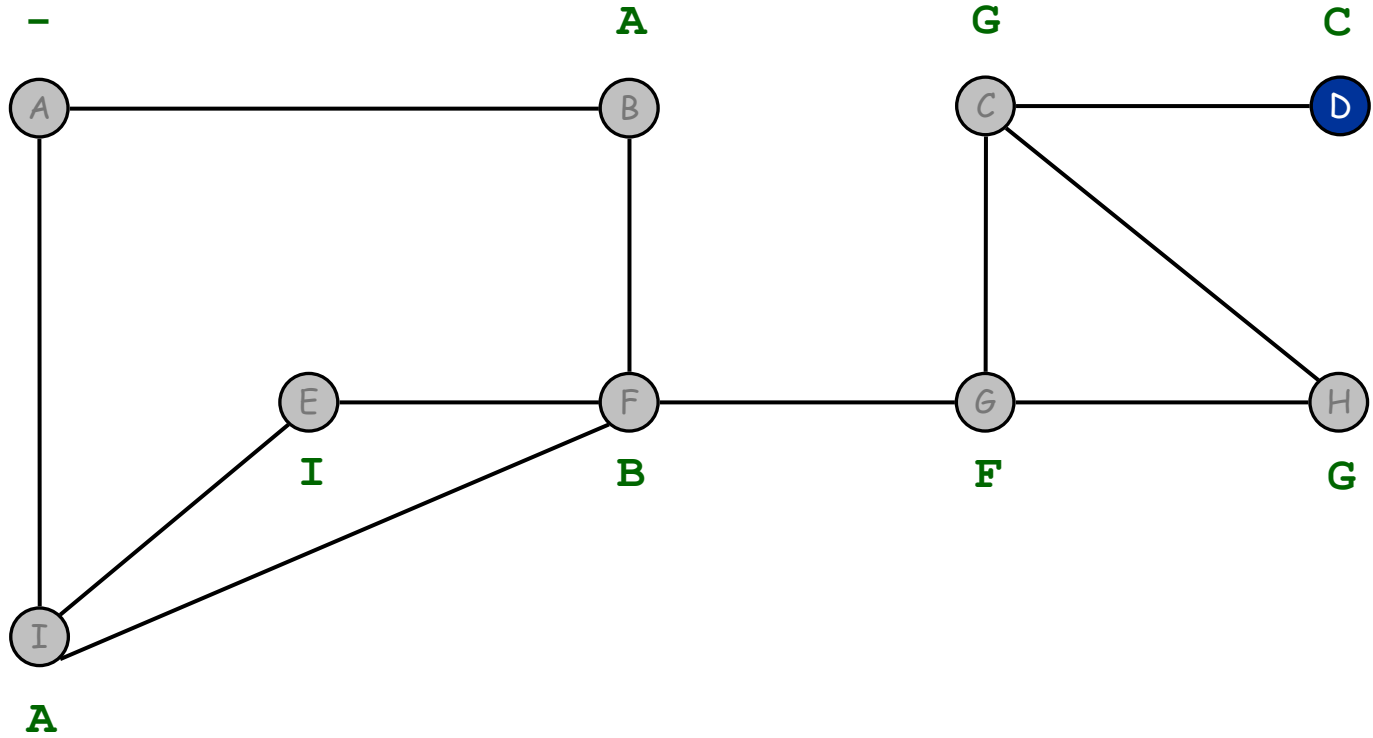
finished H

front

D

FIFO Queue

# Breadth First Search



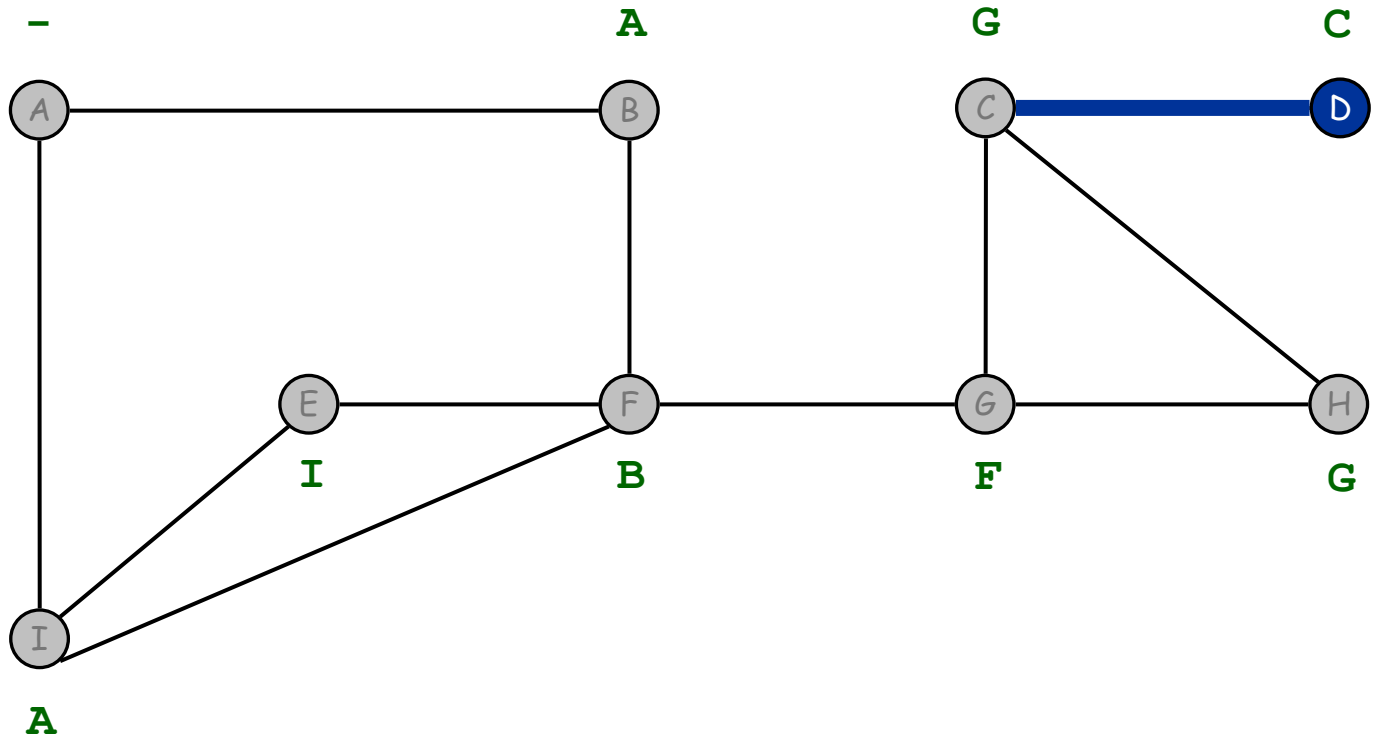
dequeue next vertex

front

D

FIFO Queue

# Breadth First Search

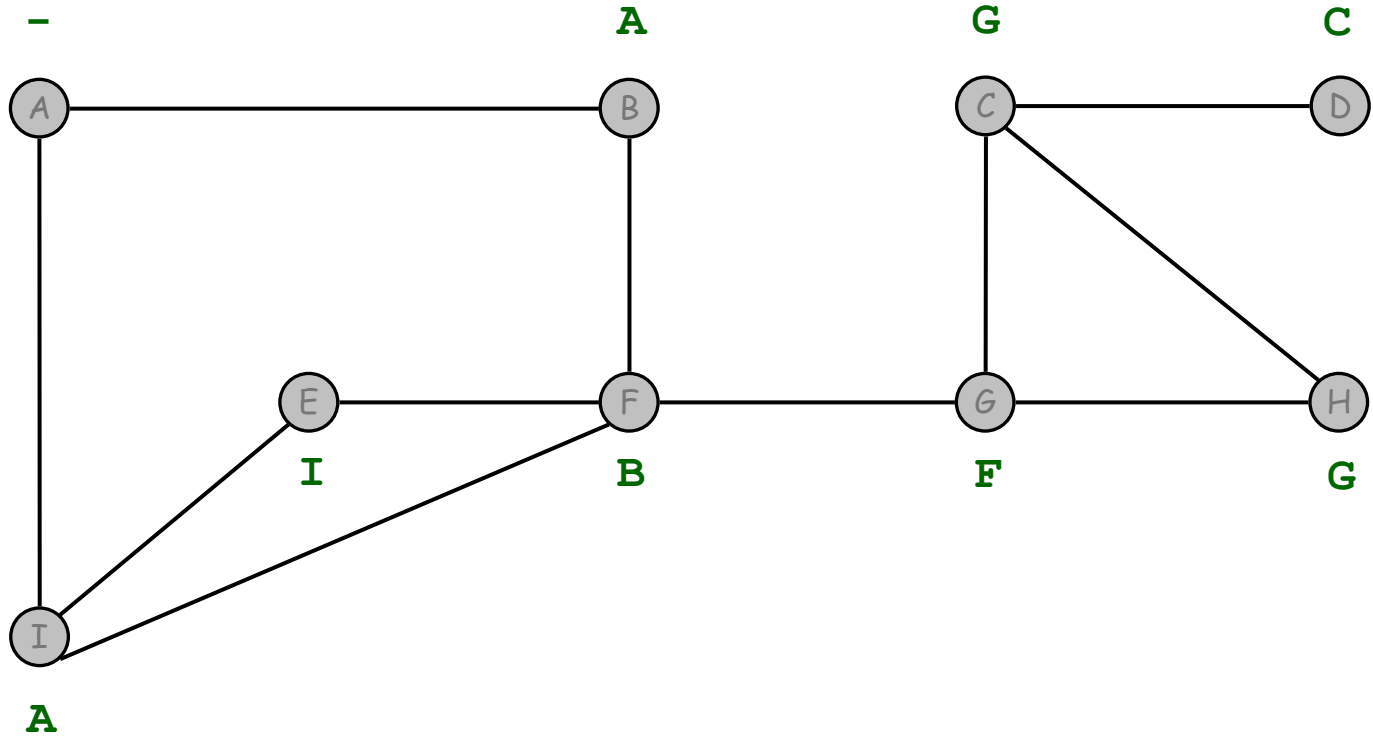


visit neighbors of D

front

## FIFO Queue

# Breadth First Search



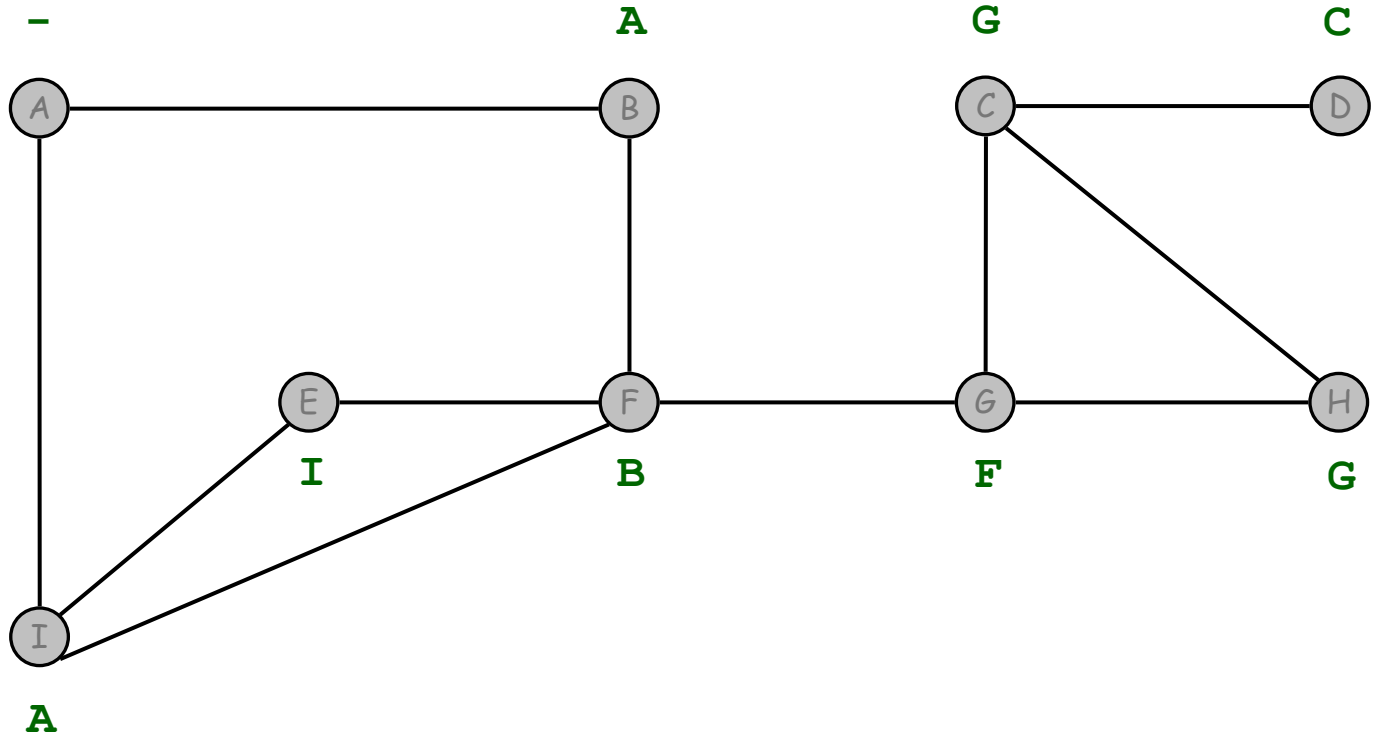
D finished

front

FIFO Queue



# Breadth First Search

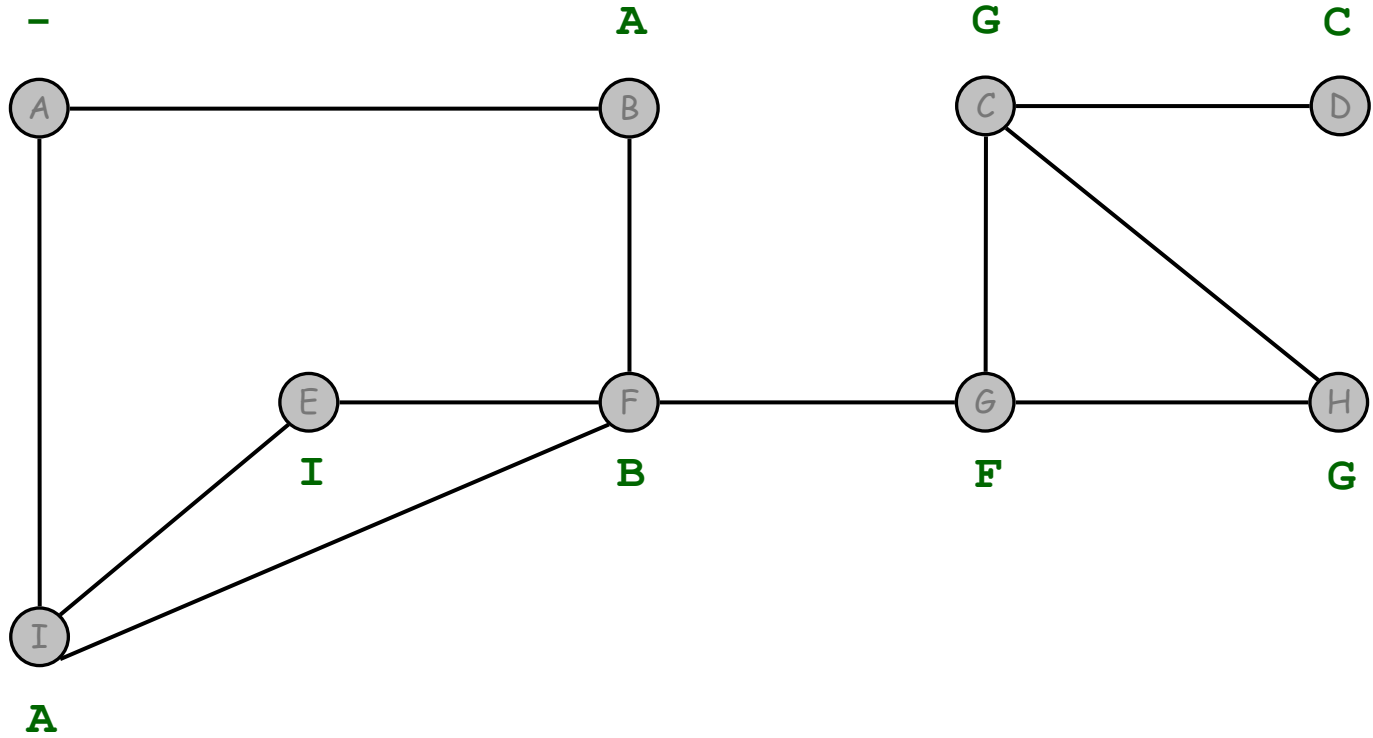


dequeue next vertex

front

FIFO Queue

# Breadth First Search



STOP

front

FIFO Queue