Graph 1

# BFS

1. Frontier Queue = A

Discovered = A

Visiting = A

1. Fronter Queue = D, G, E

Discovered = A, D, G, E

Visiting = A

1. Frontier Queue = G, E

Discovered = A, D, G, E

Visiting = D

1. Frontier Queue = E, F

Discovered = A, D, G, E, F

Visiting = G

1. Frontier Queue = F, B, C

Discovered = A, D, G, E, F, B, C

Visiting = E

1. Frontier Queue = B, C, H

Discovered = A, D, G, E, F, B, C, H

Visiting = F

1. Frontier Queue = C, H, I

Discovered = A, D, G, E, F, B, C, H, I

Visiting = B

1. Frontier Queue = H, I

Discovered = A, D, G, E, F, B, C, H, I

Visiting C

1. Frontier Queue = I

Discovered = A, D, G, E, F, B, C, H, I

Visiting = H

1. Frontier Queue = J

Discovered = A, D, G, E, F, B, C, H, I, J

Visiting = I

1. Frontier Queue = (Empty)

Discovered = A, D, G, E, F, B, C, H, I, J

Visiting = J

1. Frontier Queue = (Empty)

Discovered = A, D, G, E, F, B, C, H, I, J

Visiting = (Done)

# DFS

1. Visiting = A

Discovered = A

1. Visiting = E

Discovered = A, E

1. Visiting = B

Discovered = A, E, B

1. Visiting = I

Discovered = A, E, B, I

1. Visiting = J

Discovered = A, E, B, I, J

**Reached a last vertex**

**Backtracking**

* **I (No Adjacent)**
* **B (No Adjacent)**
* **E (Has Adjacent)**

1. Visiting = C

Discovered = A, E, B, I, J, C

**Reached Last vertex**

**Backtracking**

* **E (No Adjacent)**
* **A (Back to start changing to new path)**

1. Visiting = G

Discovered = A, E, B, I, J, C, G

1. Visiting = F

Discovered = A, E, B, I, J, C, G, F

1. Visiting = H

Discovered = A, E, B, I, J, C, G, F, H

**Reached Last vertex**

**Backtracking**

* **F (No Adjacent)**
* **G (No Adjacent)**
* **A (Back to Start changing to new path)**

1. Visiting = D

Discovered = A, E, B, I, J, C, G, F, H, D

Graph 2

# BFS

1. Frontier Queue = I

Discovered = I

Visiting = I

1. Frontier Queue = J, B

Discovered = I, J, B

Visiting = I

1. Frontier Queue = B, G

Discovered = I, J, B, G

Visiting = G

1. Frontier Queue = G, D

Discovered I, J, B, G, D

Visiting = B

1. Frontier Queue = D

Discovered = I, J, B, G, D

Visiting = G

1. Frontier Queue = F

Discovered = I, J, B, G, D, F

Visiting = D

1. Frontier Queue = C

Discovered = I, J, B, G, D, F, C

Visiting F

1. Frontier Queue = H

Discovered = I, J, B, G, D, F, C, H

Visiting = C

1. Frontier Queue = E

Discovered = I, J, B, G, D, F, C, H, E

Visiting = H

1. Frontier Queue = (Empty)

Discovered = I, J, B, G, D, F, C, H, E

Visiting = E

**No more Vertex BFS done.**

# DFS

1. Visiting = G

Discovered = G

1. Visiting = J

Discovered = G, J

1. Visiting = I

Discovered = G, J, I

1. Visiting = B

Discovered = G, J, I, B

1. Visiting = D

Discovered = G, J, I, B, D

1. Visiting = F

Discovered = G, J, I, B, D, F

1. Visiting = C

Discovered = G, J, I, B, D, F, C

1. Visiting = H

Discovered = G, J, I, B, D, F, C, H

1. Visiting = E

Discovered = G, J, I, B, D, F, C, H, E

**Reached Last Vertex**

**Backtracking**

* **H (No Adjacent)**
* **C (No Adjacent)**
* **F (No Adjacent)**
* **D (No Adjacent)**
* **B (No Adjacent)**
* **I (No Adjacent)**
* **J (No Adjacent)**
* **G (Back to Start)**

**G has no Adjacent Node that has not been travelled**

**(Done)**