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PROGRAMMING
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RIGHT WAY

Mohammed Abu-Hadhoud

MSA, PMOC, PMP®, PMP®, PMP-ACP®, CS, ITIL®, MCPD, MCD



لا تنسى الاشتراك في قناتنا على اليوتيوب ومشاركة القناة مع اصدقائك
لتعم الفائدة للجميع وانقاذ الاف الناس من التشتت جزاكم الله خيرا

لا تنسونا من دعائكم وادعو لوالدي بالرحمة

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مهم جداً

هذا الملف للمراجعة السريعة واخذ الملاحظات عليه فقط ،لانه يحتوي على اقل من 20٪ مما يتم شرحه في الفيديوهات الاستعجال والاعتماد عليه فقط سوف يجعلك تخسر كميه معلومات وخبرات كثيره

يجب عليك مشاهدة فيديو الدرس كاملا

لاتنسى عمل لايك ومشاركة القناة لتعم الفائدة للجميع
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Algorithms & Problem Solving Level 6

BFS in Trees and Graphs

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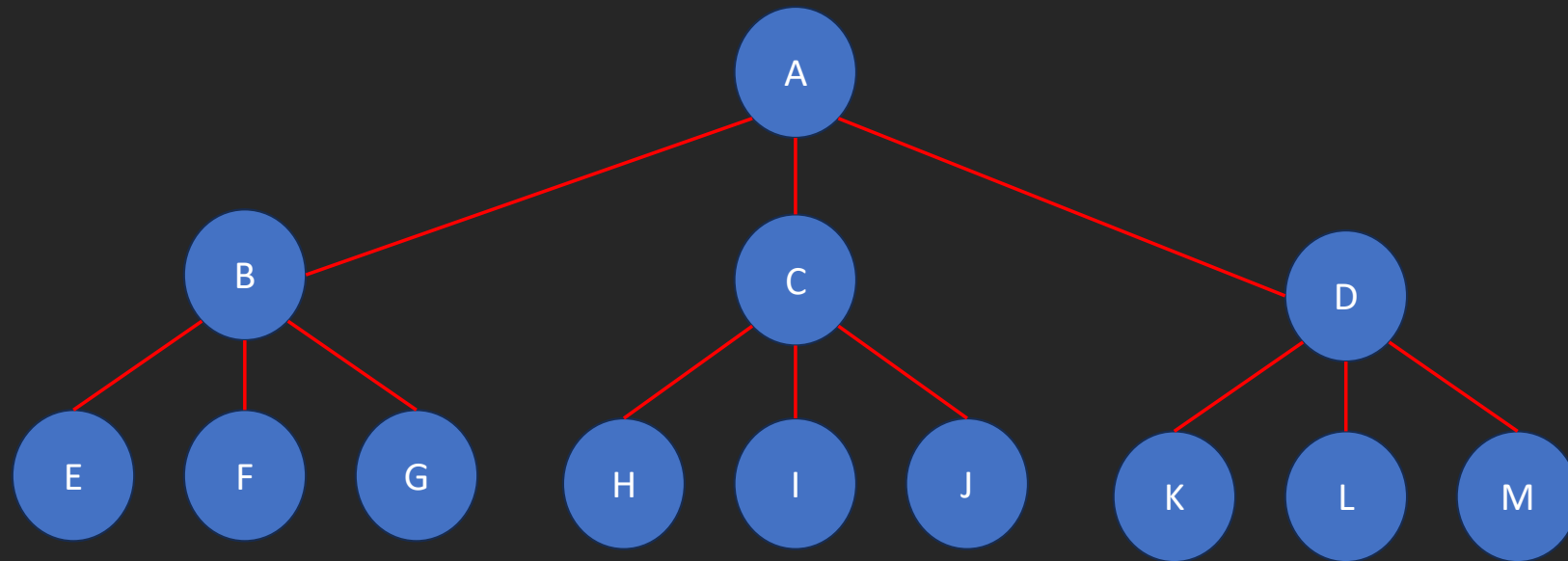
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RIGHT WAY

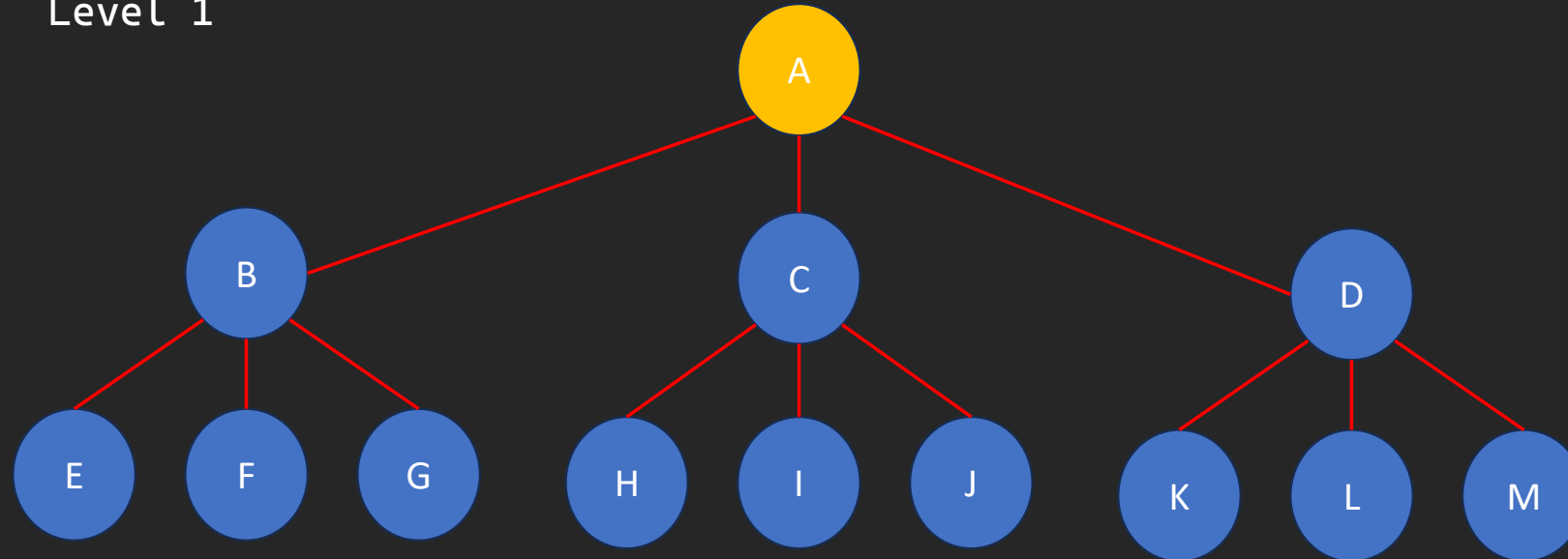
BFS: Breadth First Search.

Level By Level



BFS: Breadth First Search.

Level 1

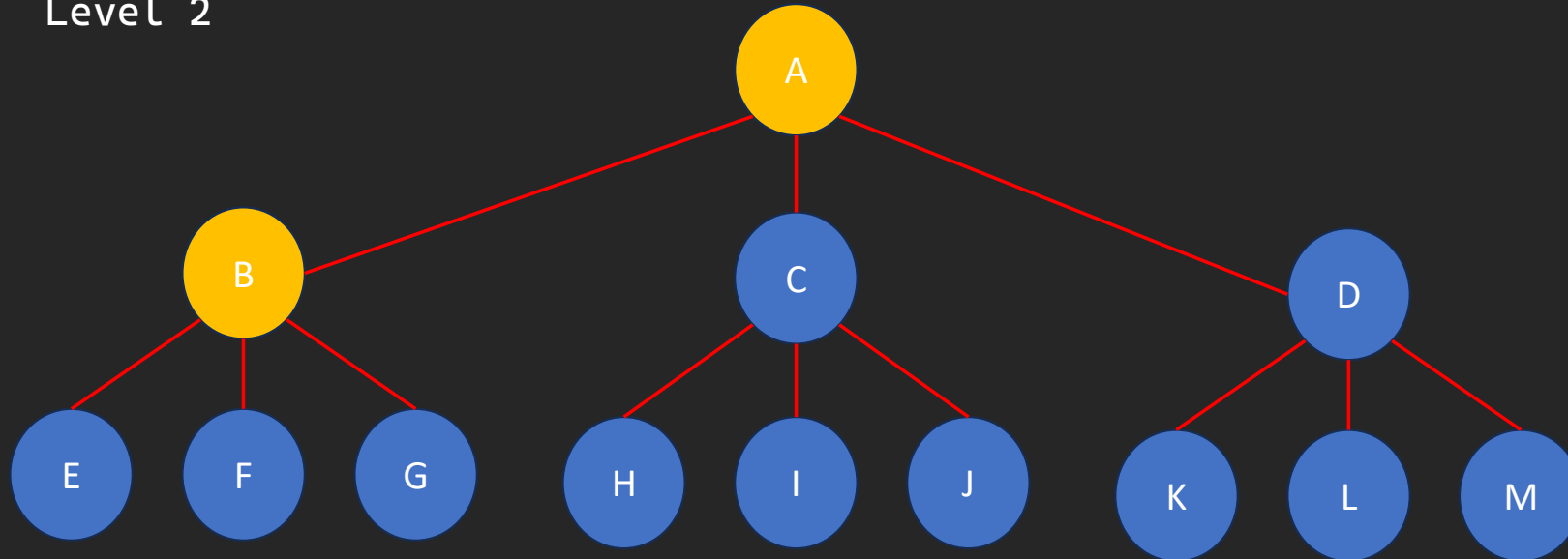


Print

A

BFS: Breadth First Search.

Level 2

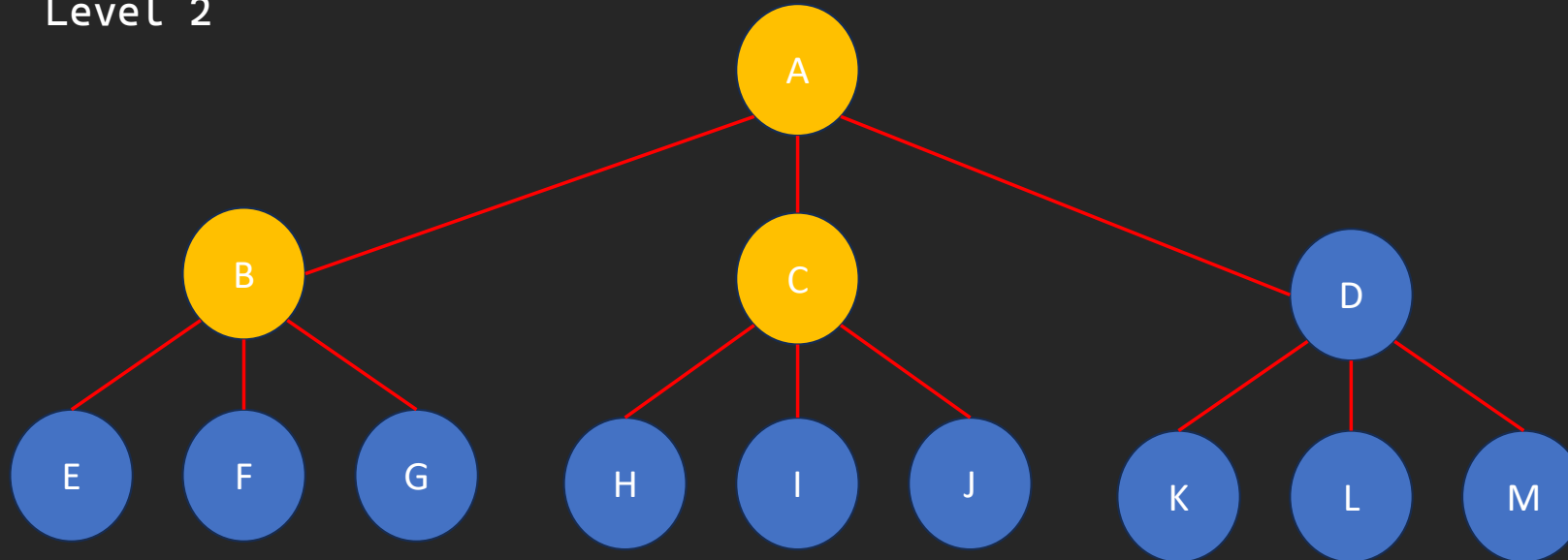


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A
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BFS: Breadth First Search.

Level 2

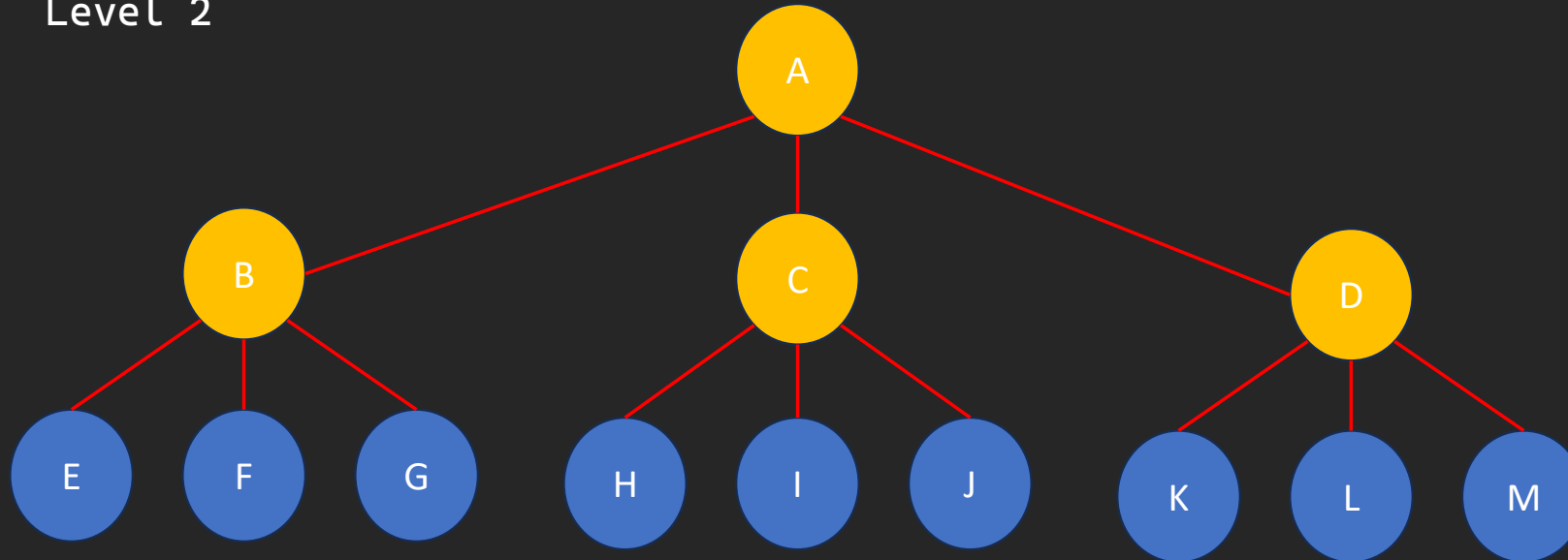


Print

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BFS: Breadth First Search.

Level 2

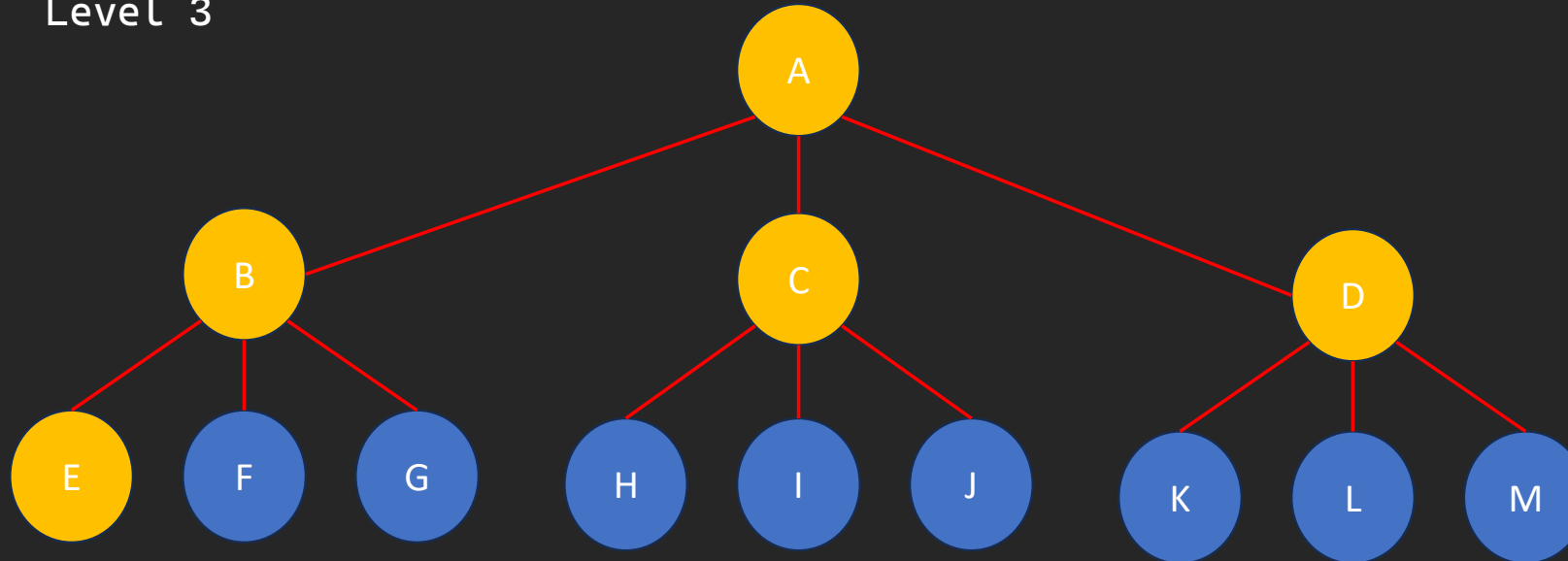


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BFS: Breadth First Search.

Level 3

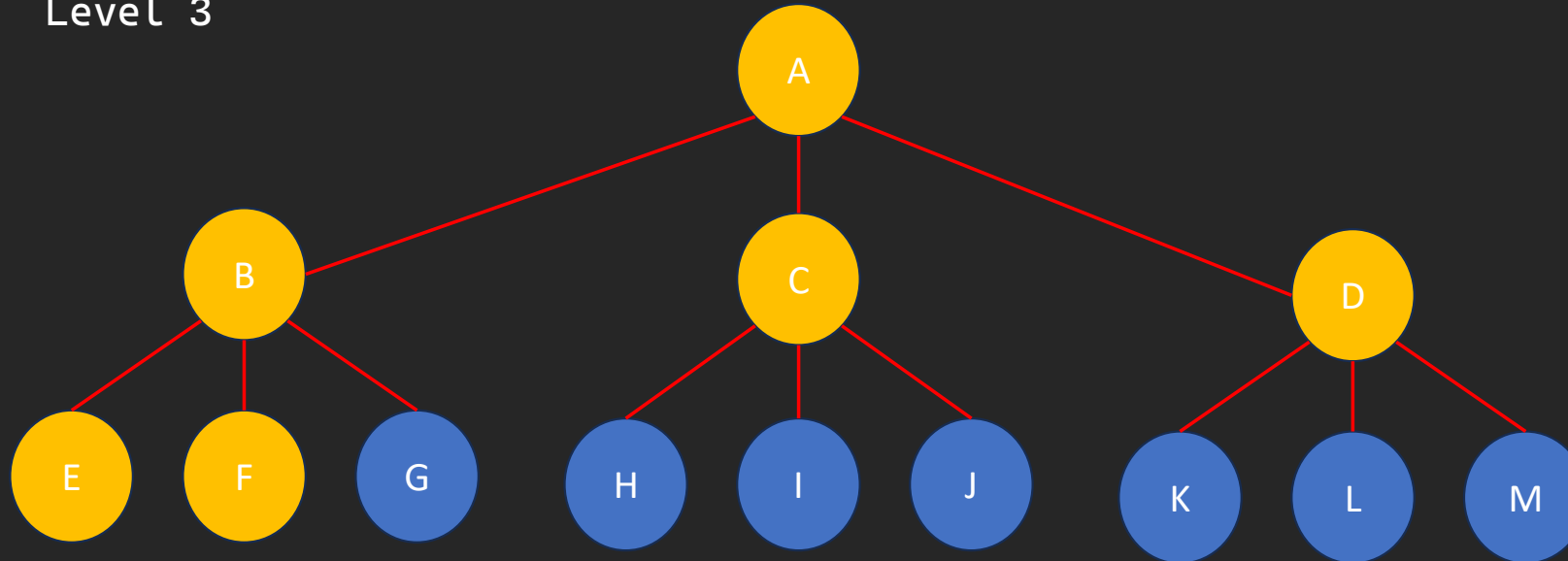


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BFS: Breadth First Search.

Level 3

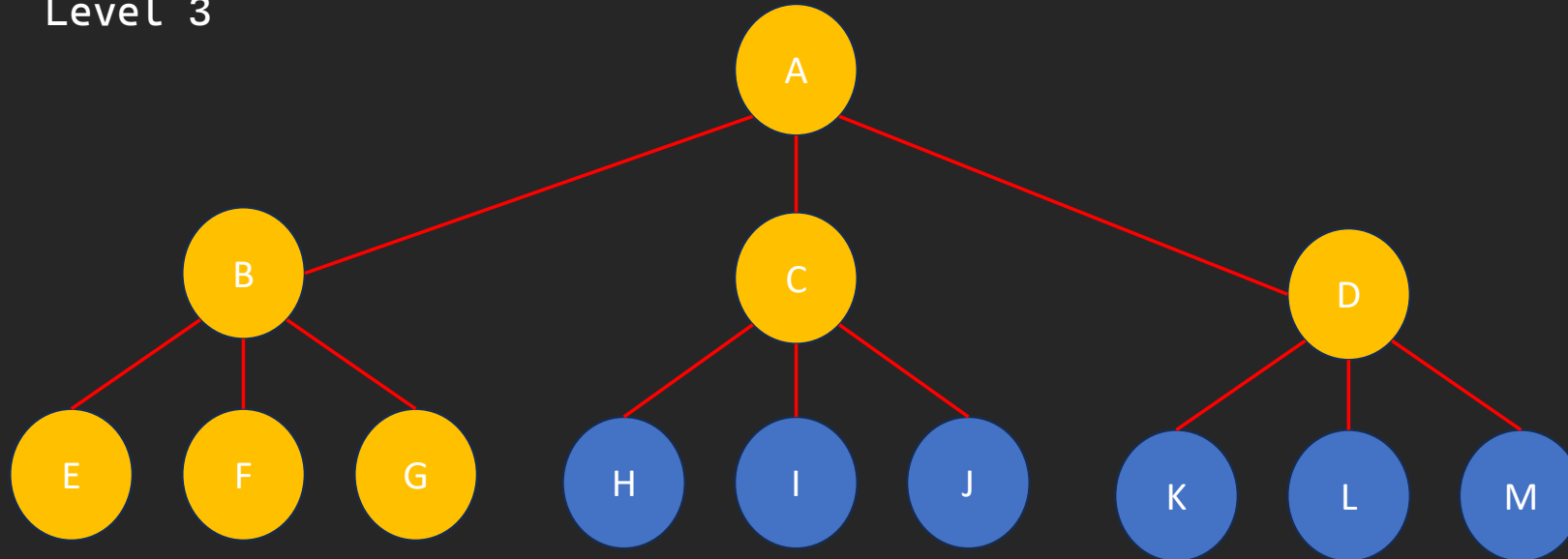


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BFS: Breadth First Search.

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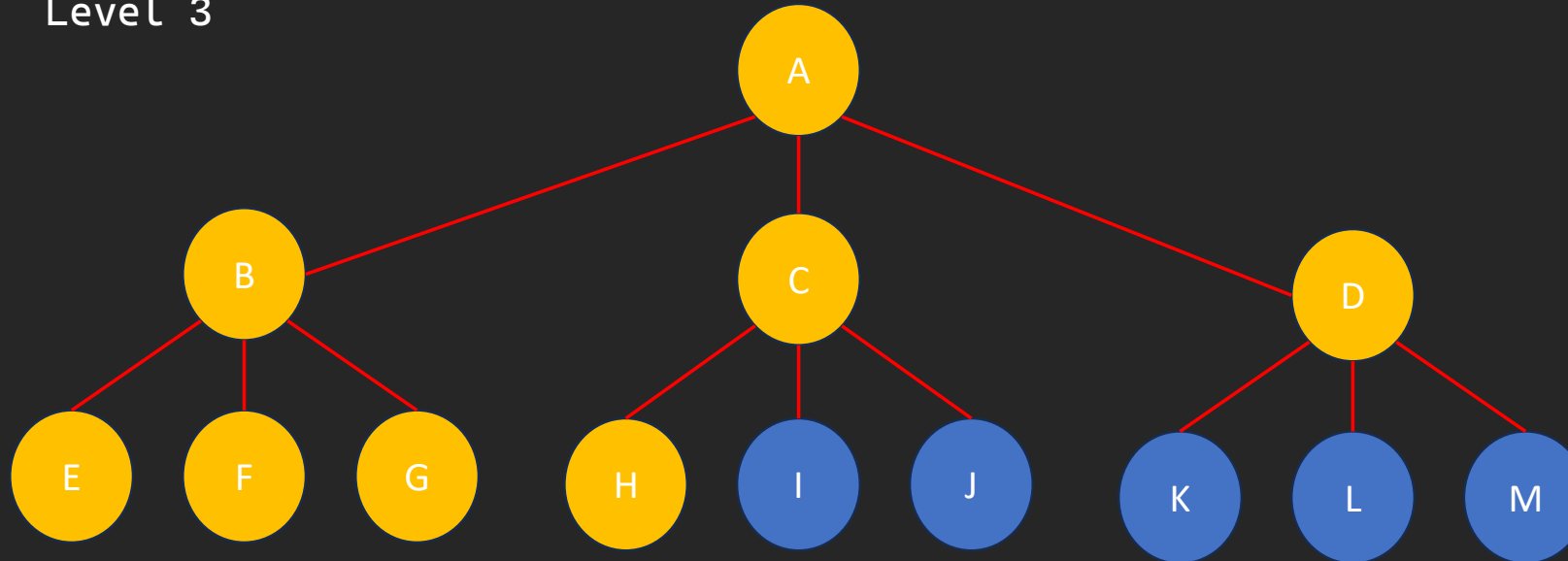


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BFS: Breadth First Search.

Level 3

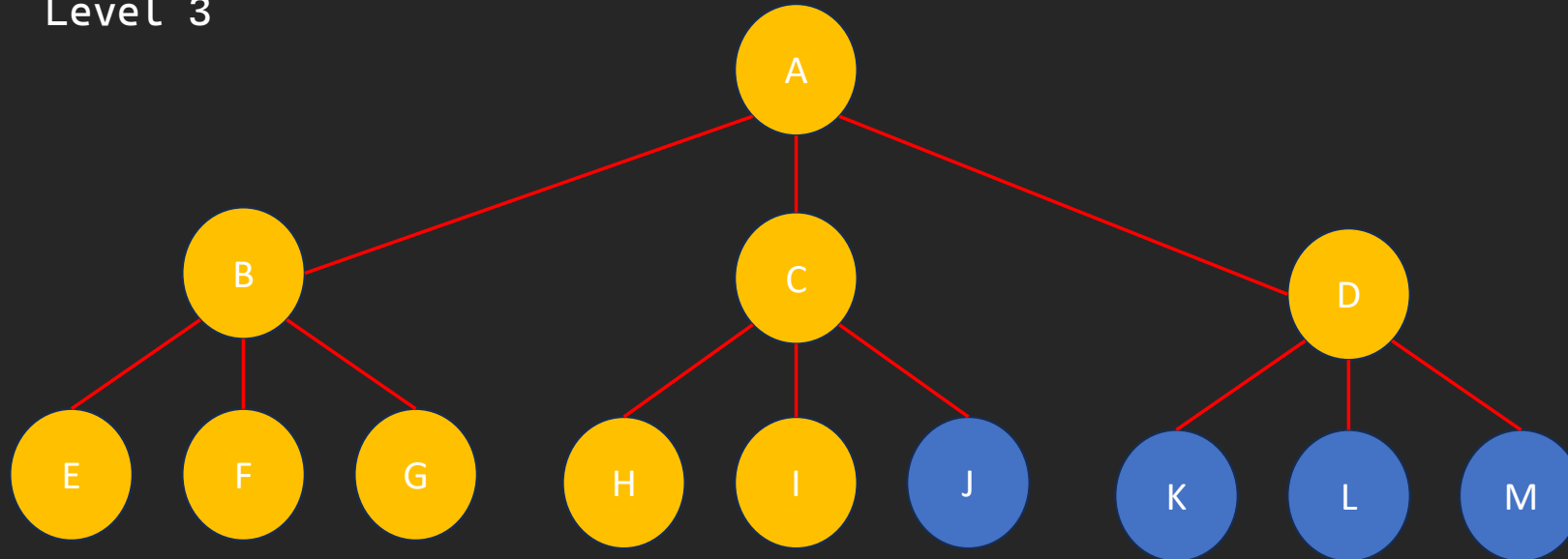


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BFS: Breadth First Search.

Level 3

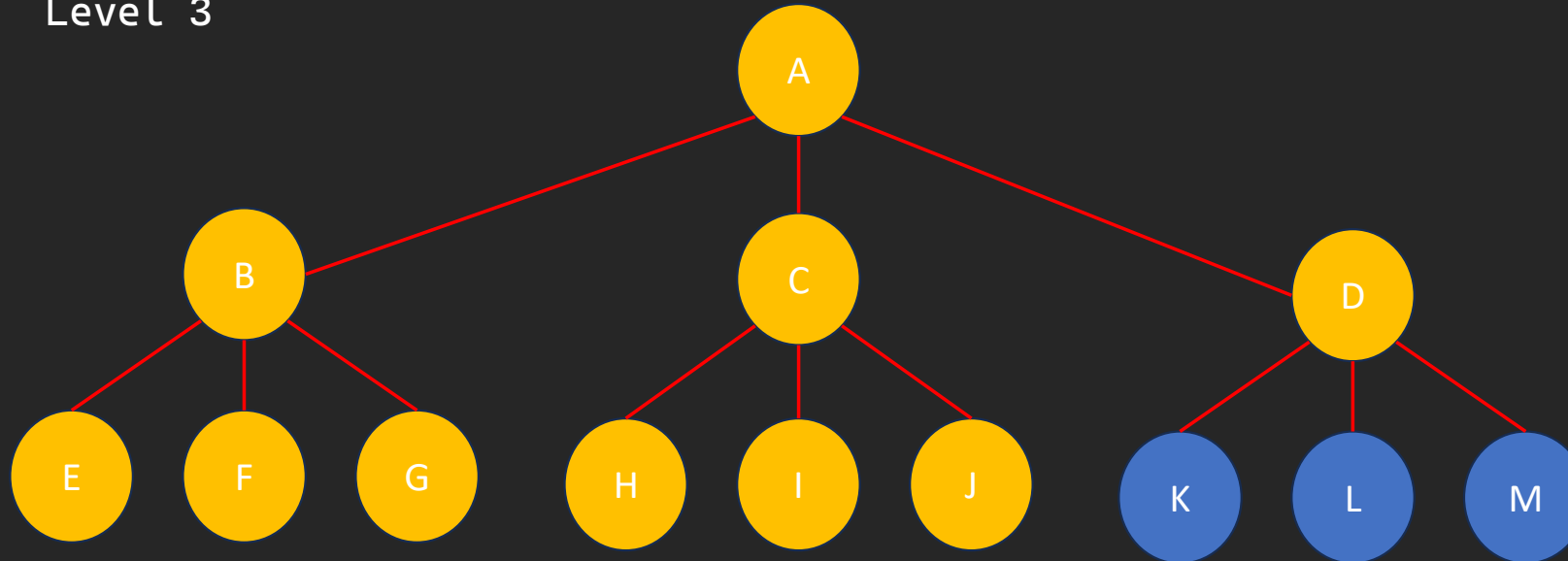


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BFS: Breadth First Search.

Level 3

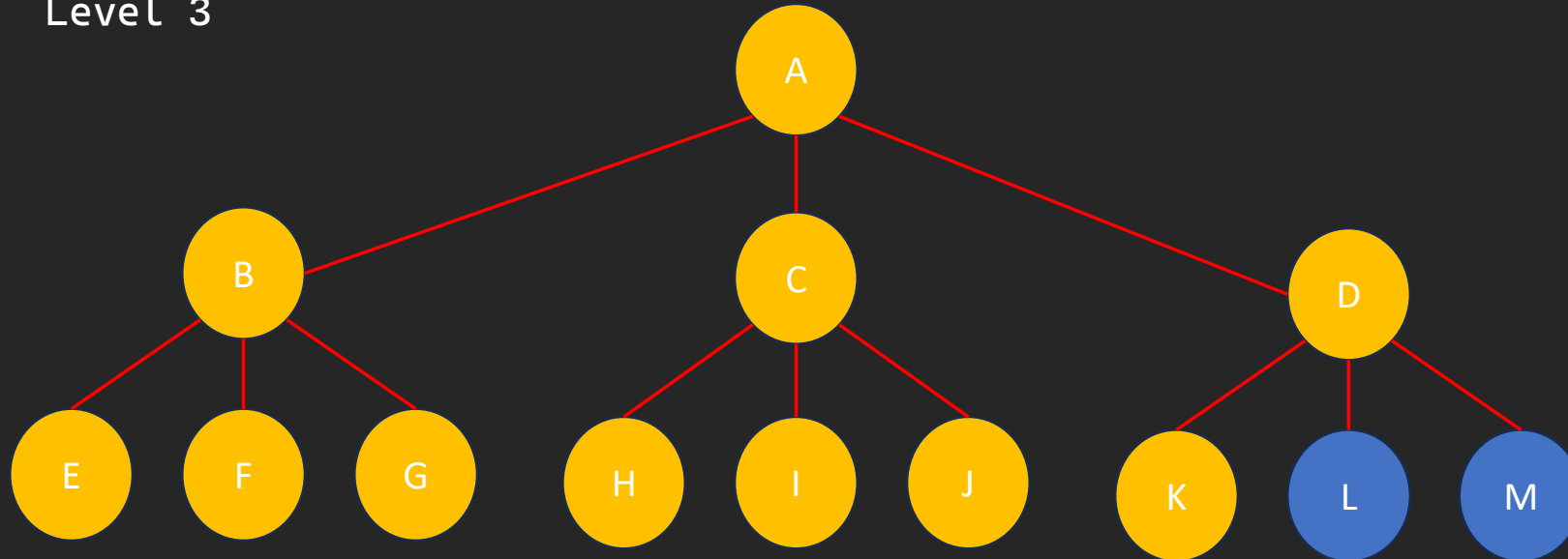


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BFS: Breadth First Search.

Level 3

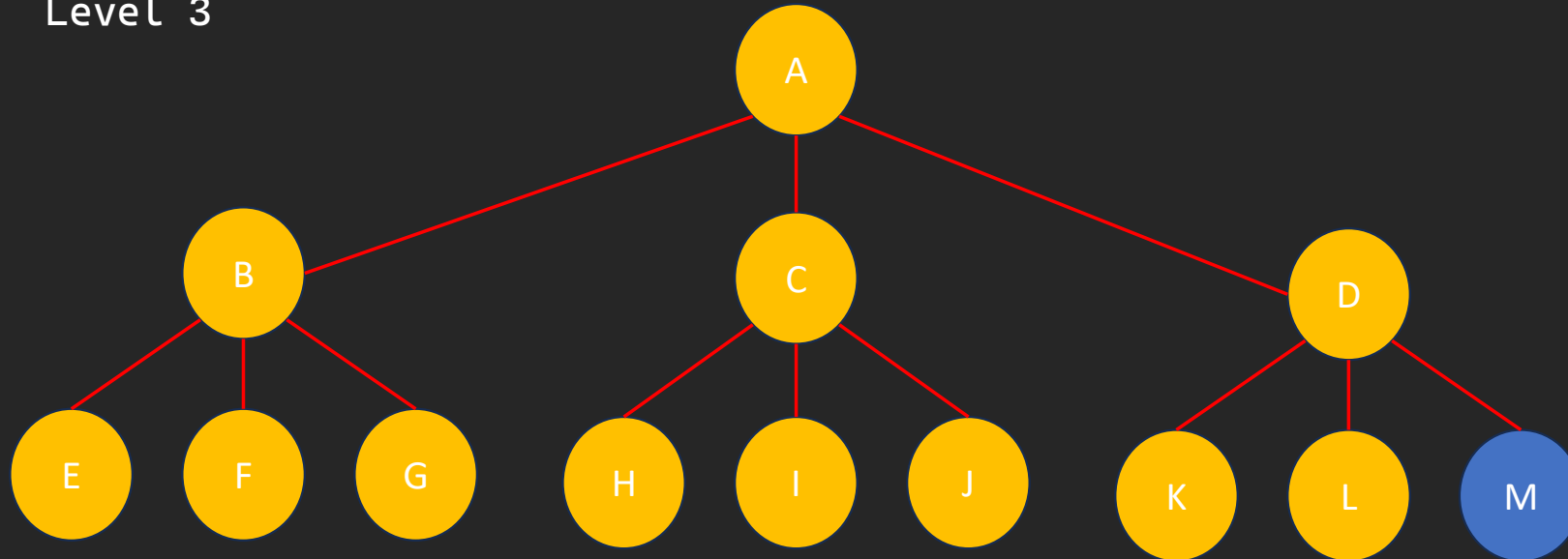


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BFS: Breadth First Search.

Level 3

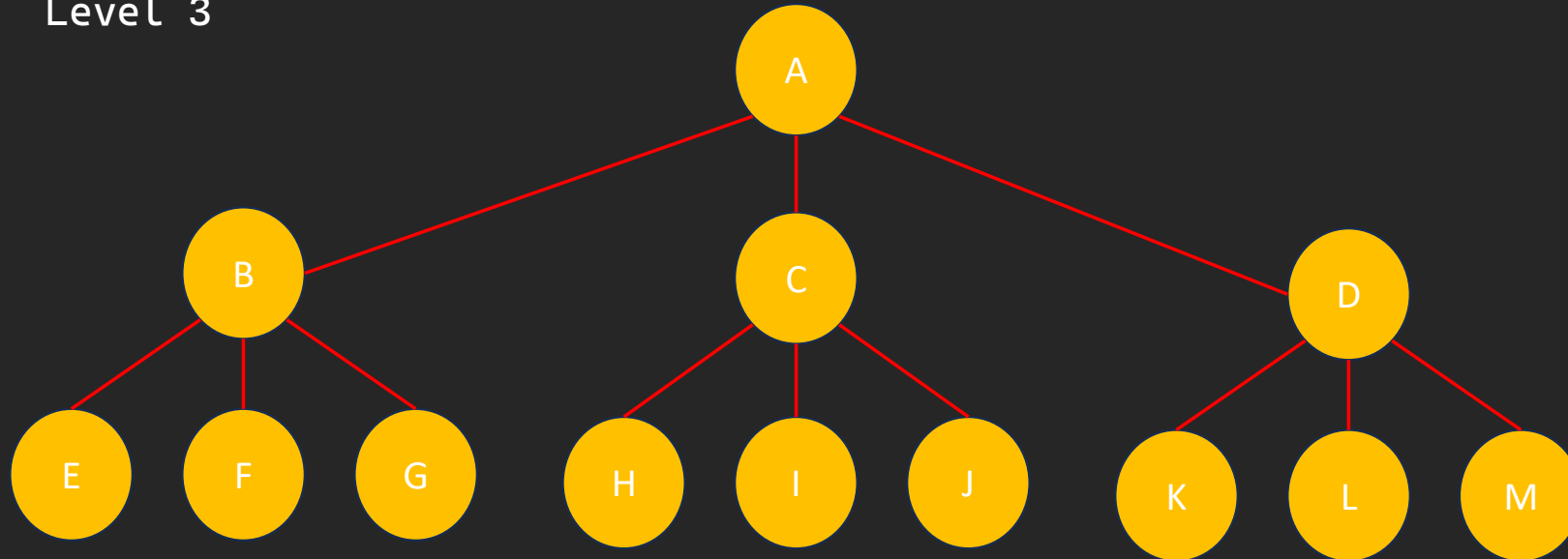


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BFS: Breadth First Search.

Level 3

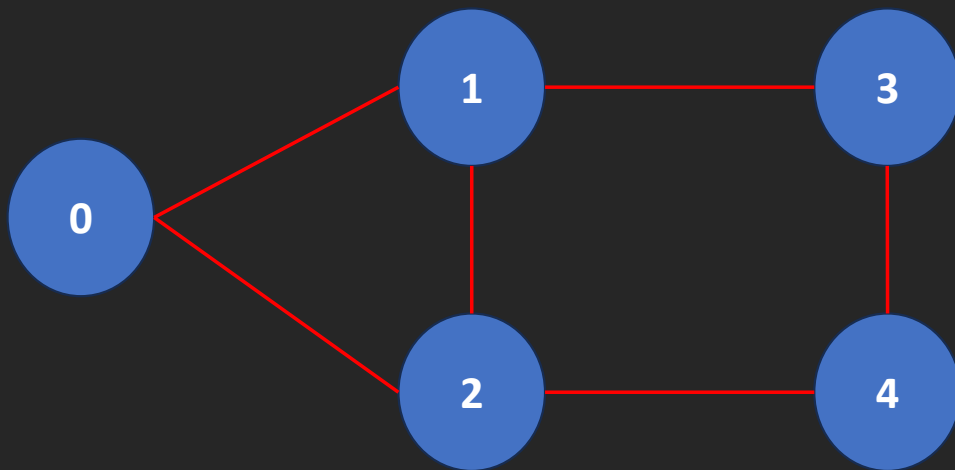


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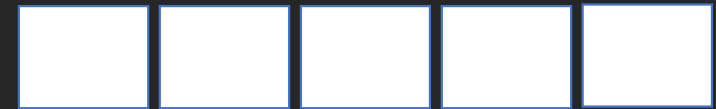
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How Does BFS Work?

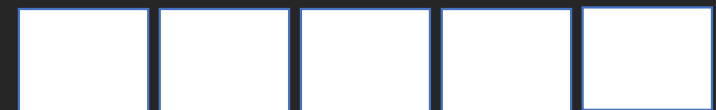
Step 1: Initially Queue and Visited Array are Empty.



Visited:



Queue:

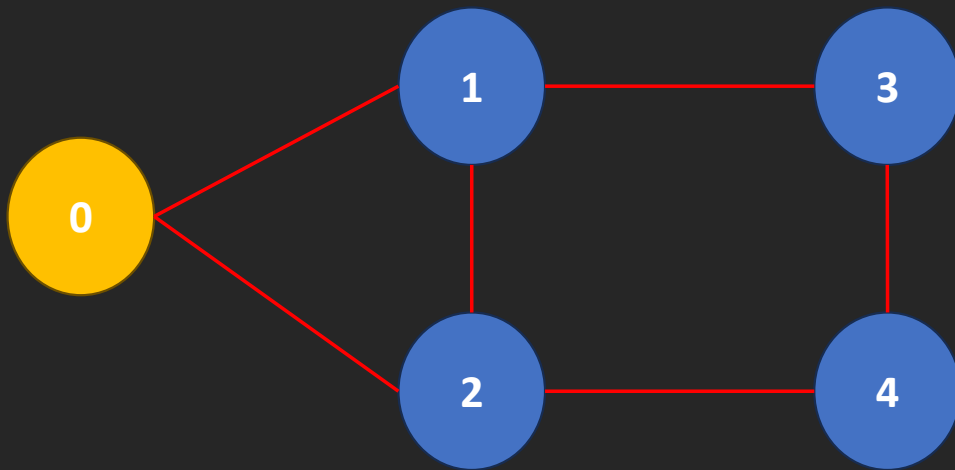


↑
Front

BFS On Graph

How Does BFS Work?

Step 2: Push 0 into queue and make it visited.



Visited:

0				
---	--	--	--	--

Queue:

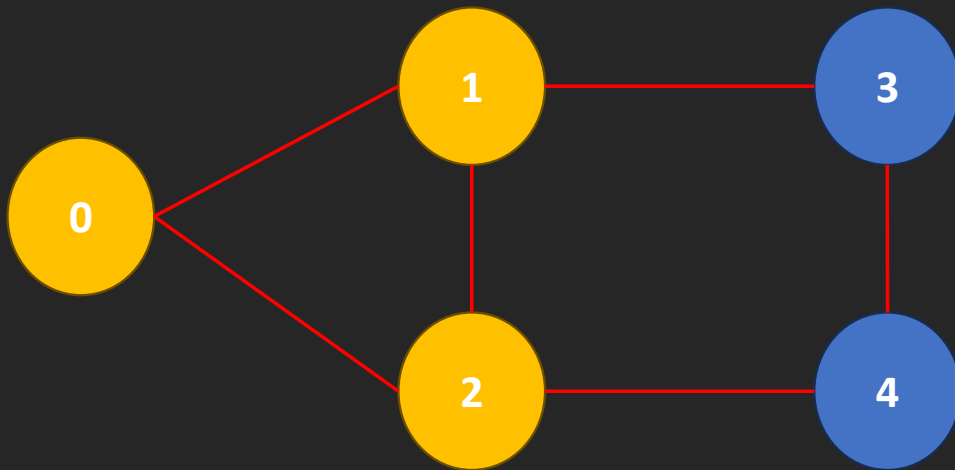
0				
---	--	--	--	--

↑
Front

BFS On Graph

How Does BFS Work?

Step 3: Remove 0 from the front (Deque) and visit the unvisited neighbors and push them in the queue.



Visited:

0	1	2		
---	---	---	--	--

Queue:

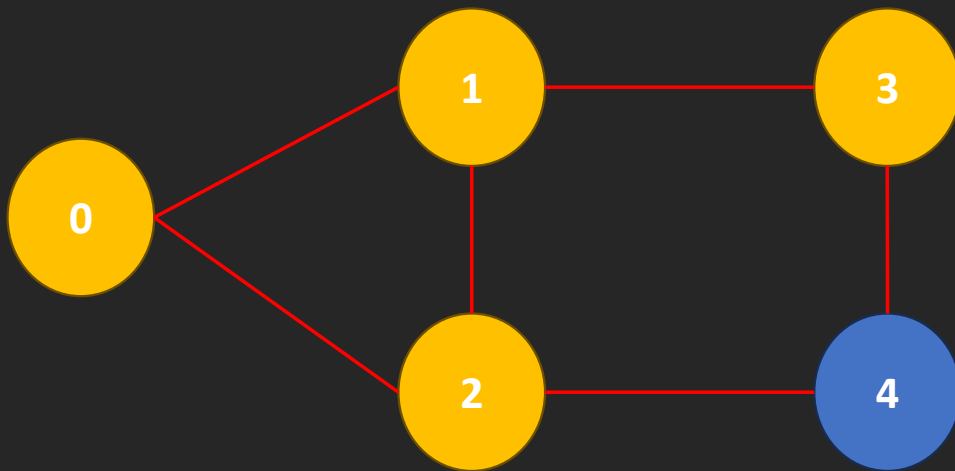
0	1	2		
---	---	---	--	--

↑
Front

BFS On Graph

How Does BFS Work?

Step 4: Remove 1 from the front (Deque) and visit the unvisited neighbors and push them in the queue.



Visited:

0	1	2	3	
---	---	---	---	--

Queue:

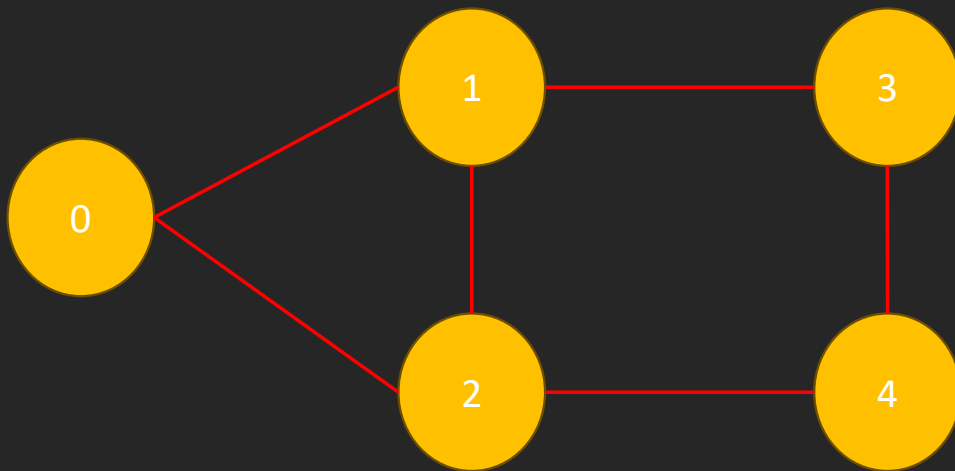
1	2	3		
---	---	---	--	--

↑
Front

BFS On Graph

How Does BFS Work?

Step 5: Remove 2 from the front (Deque) and visit the unvisited neighbors and push them in the queue.



Visited:

0	1	2	3	4
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Queue:

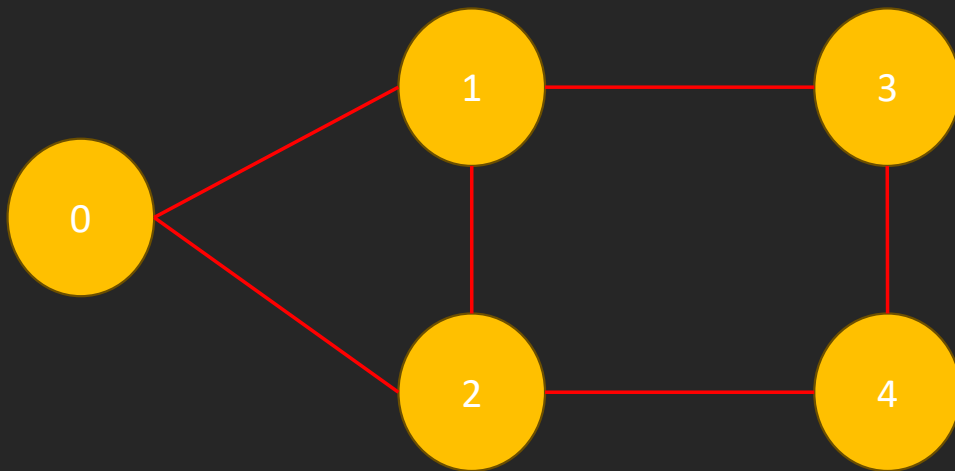
2	3	4		
---	---	---	--	--

↑
Front

BFS On Graph

How Does BFS Work?

Step 6: Remove 3 from the front (Deque) and visit the unvisited neighbors and push them in the queue.



Visited:

0	1	2	3	4
---	---	---	---	---

Queue:

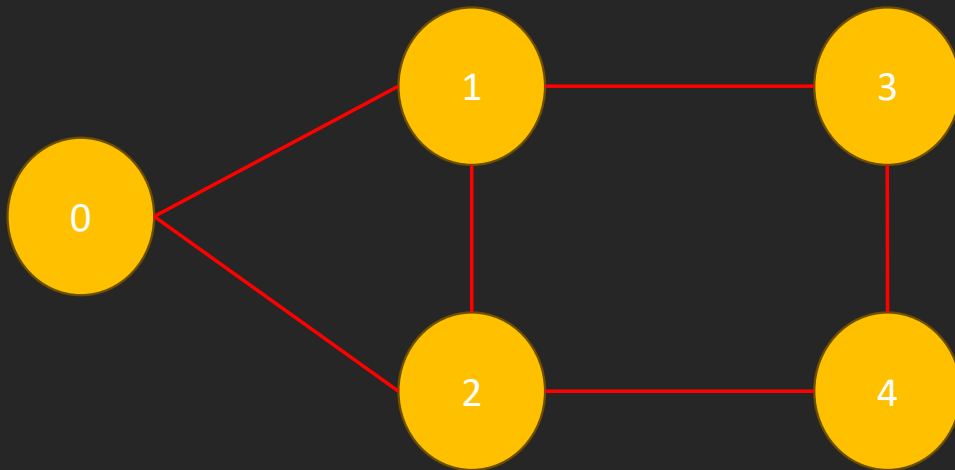
3	4			
---	---	--	--	--

↑
Front

BFS On Graph

How Does BFS Work?

Step 7: Remove 4 from the front (Deque) and visit the unvisited neighbors and push them in the queue.



Visited:

0	1	2	3	4
---	---	---	---	---

Queue:

4				
---	--	--	--	--

↑
Front

BFS On Graph



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Thank You

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