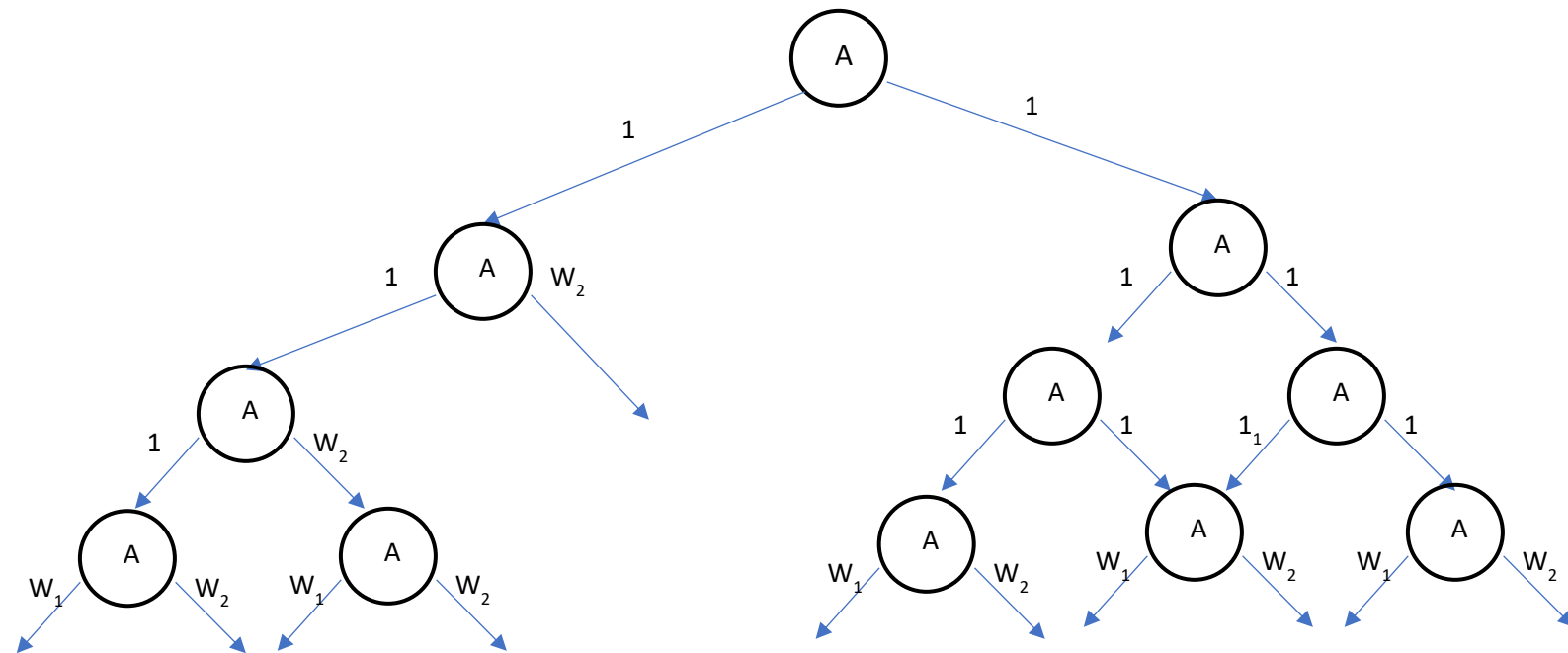
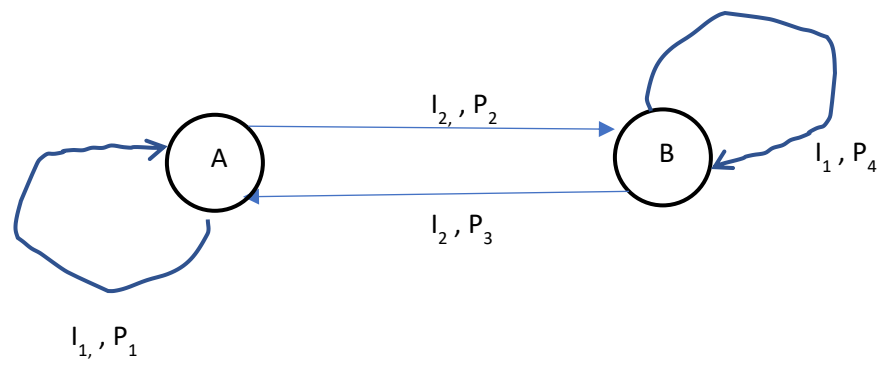


June 29, 2020

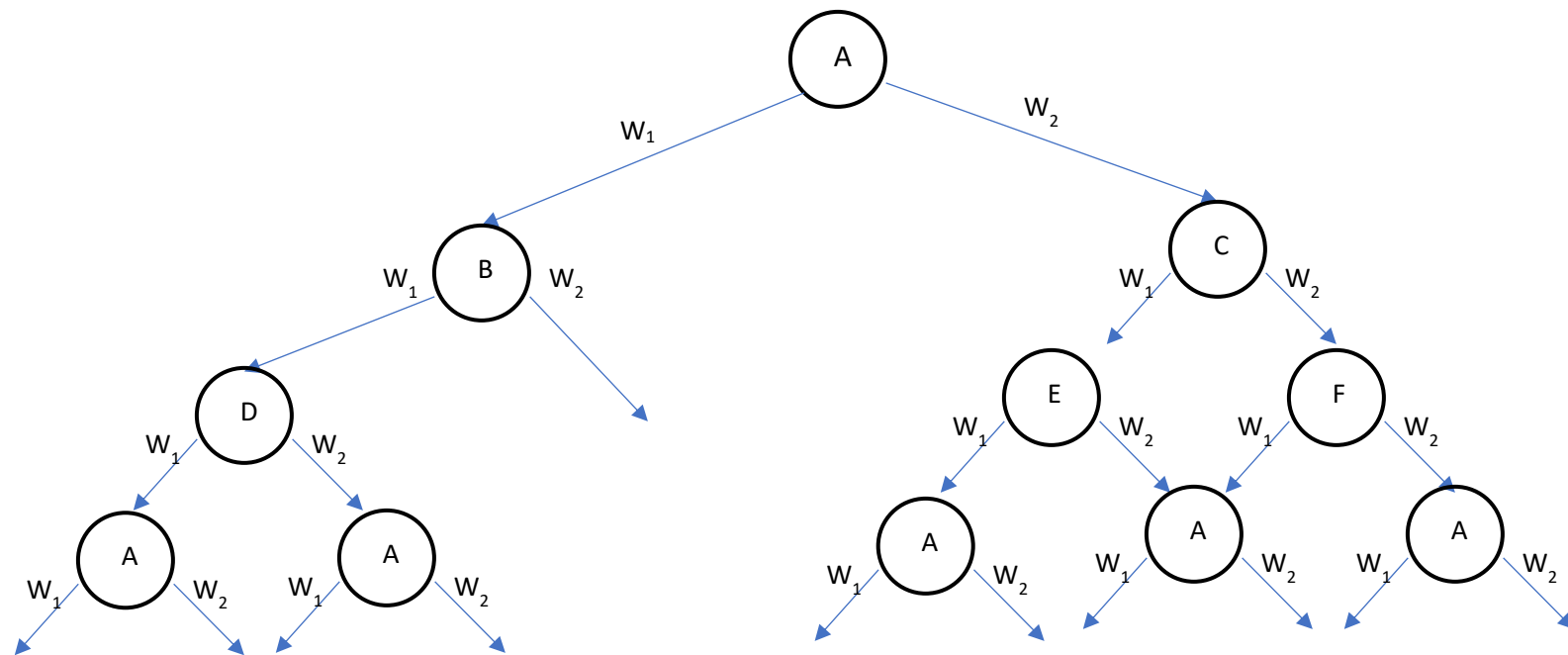
Search tree examples and discussion

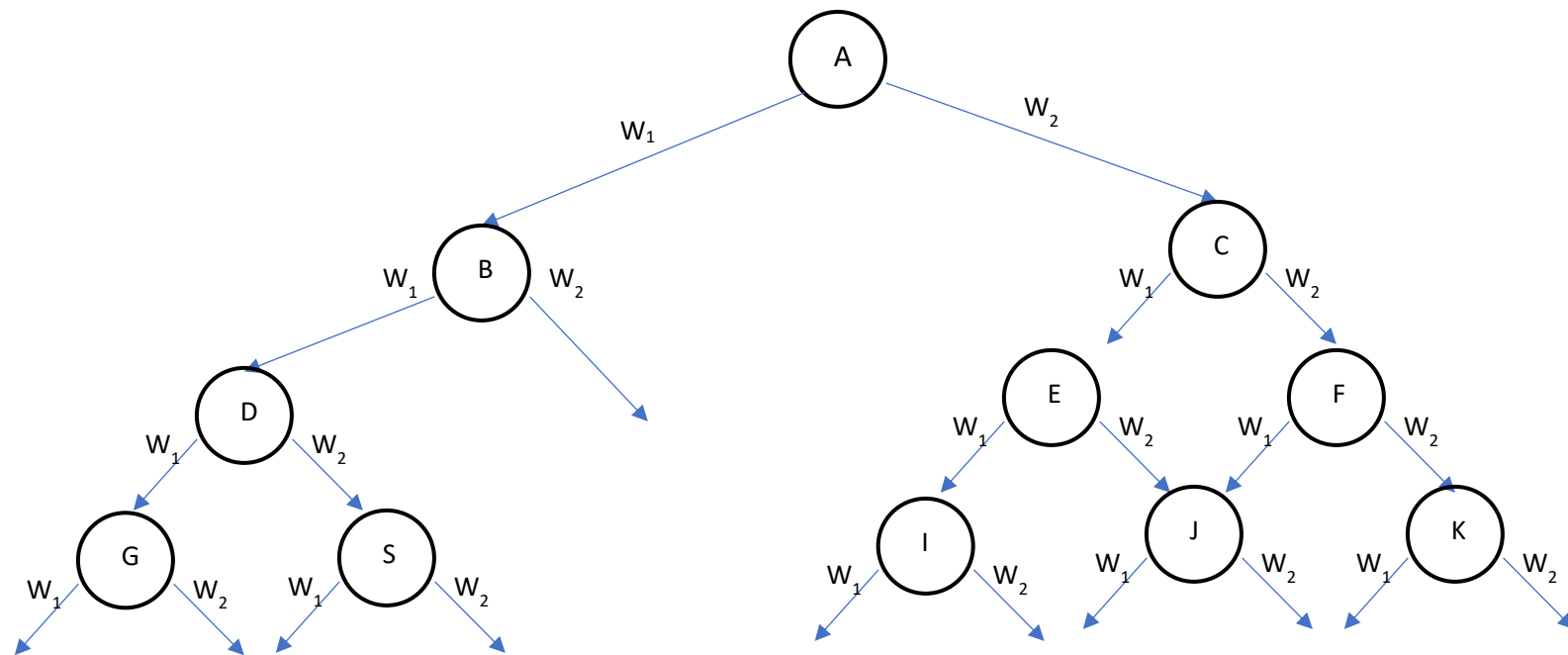
Some material has been edited in class – might not be completely accurate. Consult the AI book





Original BFS ignore weights





How to implement – Use a queue At each vertex insert child nodes, remove a node and enter the children to the Q in FIFO

Complete/ (Finite/Infinite) if there is a solution it will be found

Sound Yes if a solution exists it the right solution

Infinite tree is it complete?

The storage requirements of this algorithm? The space for the Q is growing exponentially a solution will not be found due to lack of resources

Soundness?

Complete? On a finite tree Yes, if infinite then no.

Resources? Linear? WRT to the depth of tree

Prolog programming language that is using Logic for computation.

Building the inference tree can be infinite and searches for a solution (for factorial(5) = 120)

Is prolog doing a BFS or DFS → DFS knowing that it is not complete might look like an infinite loop.

Iterative Deepening use DFS up to some level of depth if the solution is not found then restart DFS for n levels (ignoring nodes explored).

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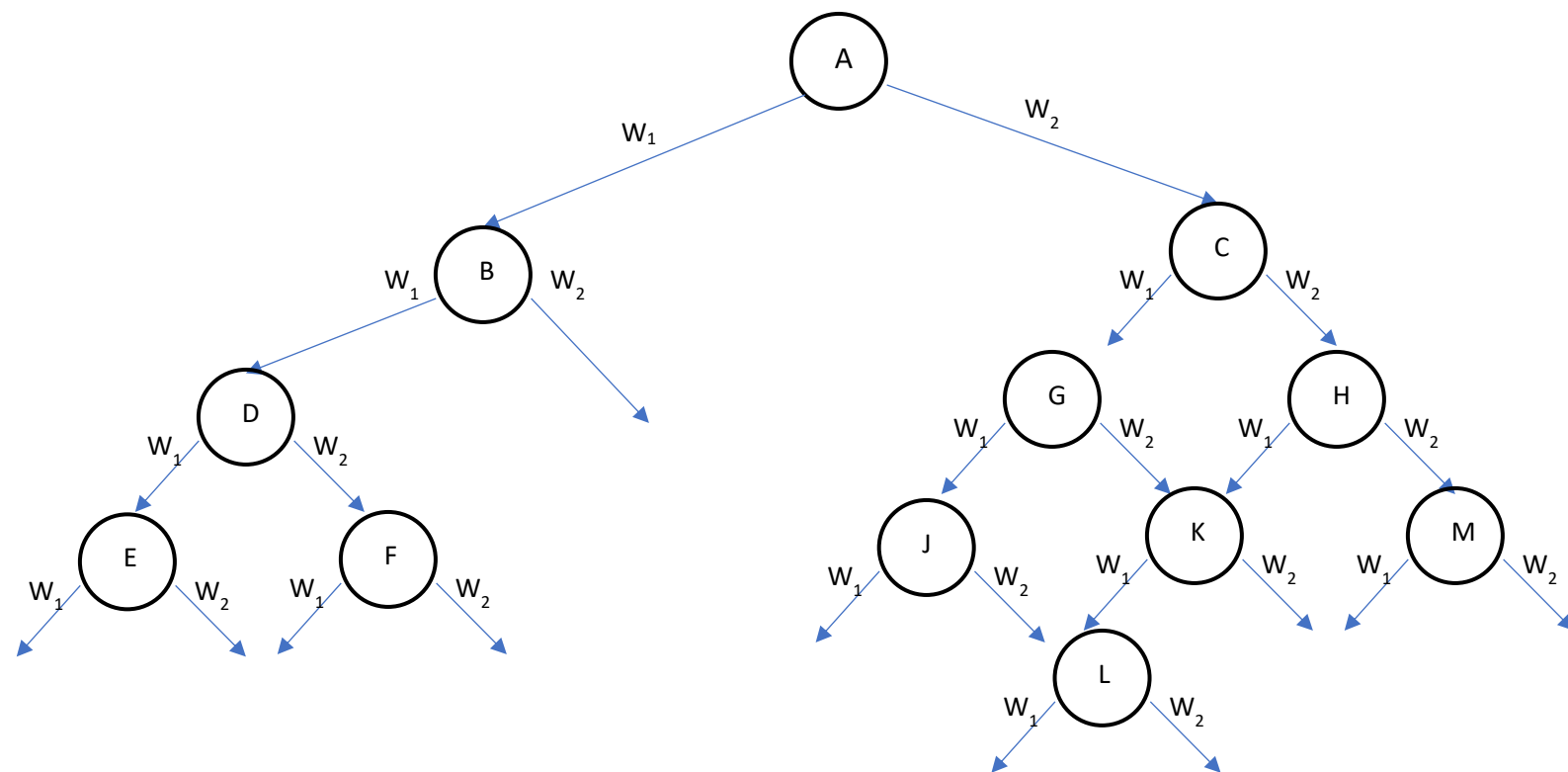
Uniform cost with the restriction that we continue in levels that provide uniform cost

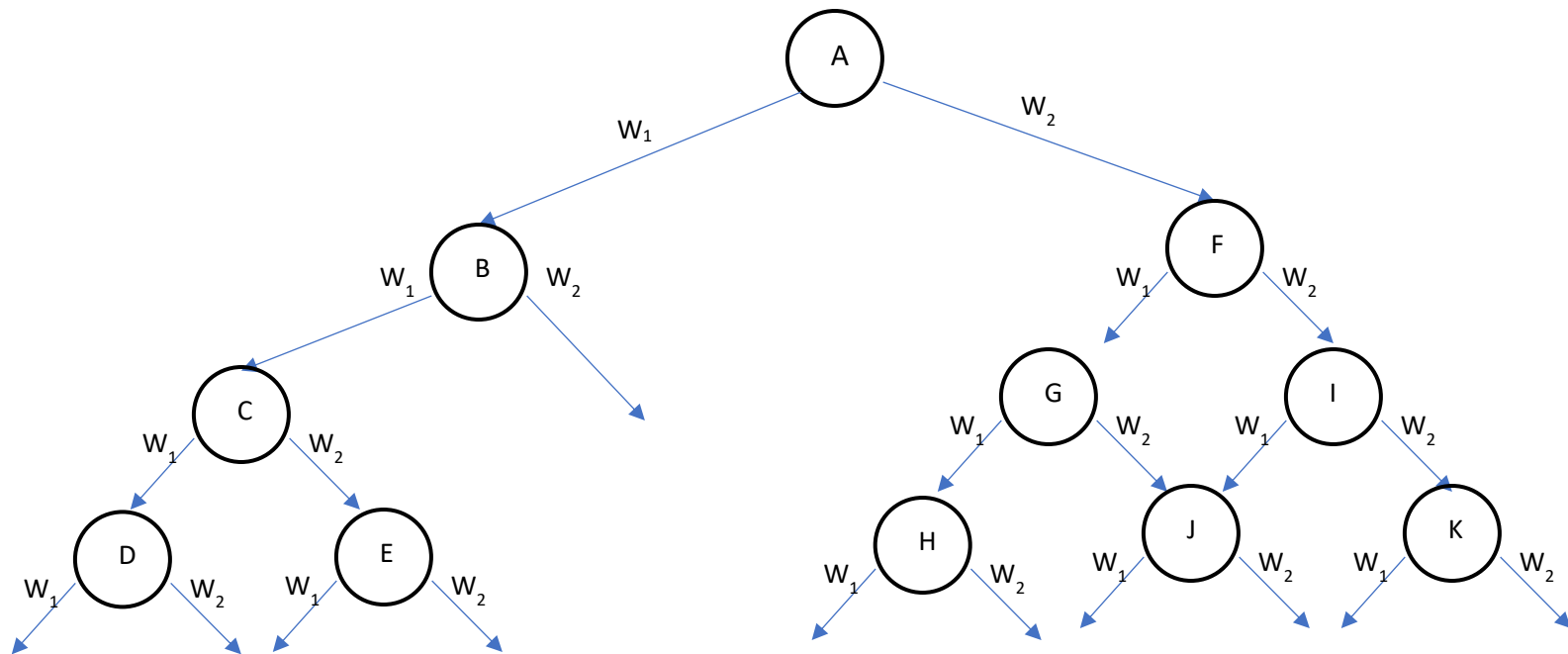
With the same weights it is BFS. Finite tree

Iterative Deepening use DFS up to some level of depth if the solution is not found then restart DFS for n levels (ignoring nodes explored).

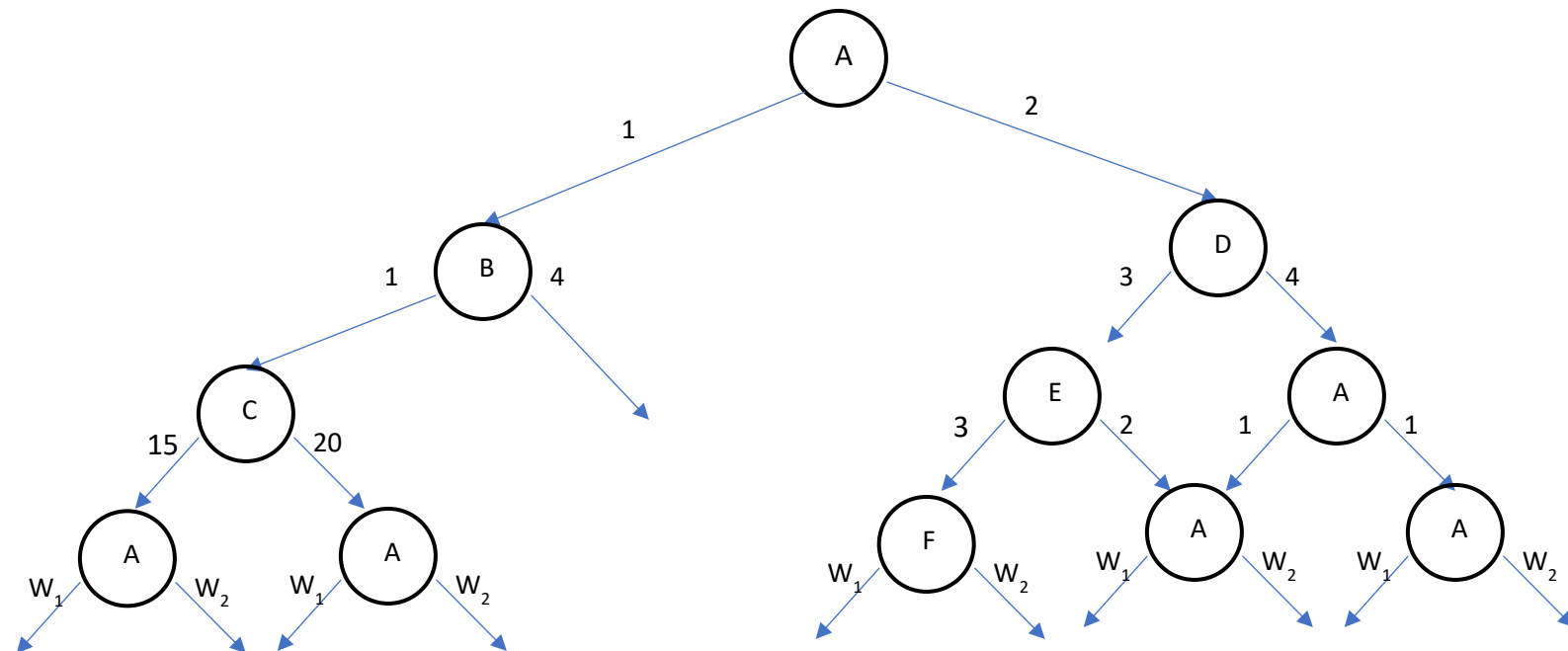
Uniform cost with the restriction that we continue in levels that provide uniform cost

With the same weights it is BFS. Finite tree





Uniform Cost



It is still BFS When do we stop when we reach a predetermined level.

