

Question from a to c

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Question a:
[[0, 1, 1, 0], [0, 0, 0, 1], [0, 0, 0, 1], [0, 0, 0, 0]]
The graph is a DAG
[[0, 1, 0, 0], [0, 0, 0, 1], [1, 0, 0, 0], [0, 0, 1, 0]]
The graph is not a DAG
Question b:
[[0, 1, 0, 0], [0, 0, 0, 1], [1, 0, 0, 0], [0, 0, 1, 0]]
The graph is not a DAG
The new dag is : [[0, 1, 0, 0], [0, 0, 0, 1], [0, 0, 0, 0], [0, 0, 1, 0]]
Question c:
The equivalent sorted graph is:[[0, 1, 0, 0], [0, 0, 0, 1], [1, 0, 0, 0], [0, 0, 1, 0]]
```

Question d

H does not equal to G

The `sort_dag` function takes a directed acyclic graph (DAG) as input and returns a topologically sorted version of the same graph. This means that the nodes in the sorted graph will be ordered in such a way that for every directed edge  $u \rightarrow v$ , node  $u$  will appear before node  $v$  in the sorted list which may not be a DAG. On the other hand, the `make_dag` function returns a DAG representation of the same graph. Therefore, G does not equal to H.