Sample output for in_degree() - Q1

In degree of the graph:
Vertex: 1 Degree: 0
Vertex: 2 Degree: 1

Sample output for out_degree() - Q1

Out degree of the graph:
Vertex: 1 Degree: 1
Vertex: 2 Degree: 0

Sample output for transpose() - Q2

// Before transpose() the call to display()
['1', '2']
1 [0, 1]
2 [0, 0]

// After transpose() the call to display() ['1', '2']
1 [0, 0]
2 [1, 0]

Note: values are not printed by the 'transpose' method. They will be printed by 'display'.
Do not call 'display' in your 'transpose'.

Sample output for dfs_on_graph() - Q3

Vertex: q Discovered: 1 Finished: 16
Vertex: r Discovered: 17 Finished: 20
Vertex: s Discovered: 2 Finished: 7
Vertex: t Discovered: 8 Finished: 15
Vertex: u Discovered: 18 Finished: 19
Vertex: v Discovered: 3 Finished: 6
Vertex: w Discovered: 4 Finished: 5
Vertex: x Discovered: 9 Finished: 12
Vertex: y Discovered: 13 Finished: 14
Vertex: z Discovered: 10 Finished: 11

Sample output for graph.prim('G') - Q4

Iteration: Initial

Vertex: A d: inf pi: None

Vertex: B d: inf pi: None

Vertex: C d: inf pi: None

Vertex: D d: inf pi: None

Vertex: E d: inf pi: None

Vertex: F d: inf pi: None

Vertex: G d: 0 pi: None

Vertex: H d: inf pi: None

Iteration: 0

Vertex: A d: inf pi: None

Vertex: B d: inf pi: None

Vertex: C d: inf pi: None

Vertex: D d: inf pi: None

Vertex: E d: inf pi: None

Vertex: F d: 3 pi: G

Vertex: G d: 0 pi: None

Vertex: H d: 14 pi: G

Iteration: 1

Vertex: A d: inf pi: None

Vertex: B d: inf pi: None

Vertex: C d: inf pi: None

Vertex: D d: inf pi: None

Vertex: E d: 8 pi: F

Vertex: F d: 3 pi: G

Vertex: G d: 0 pi: None

Vertex: H d: 10 pi: F

Iteration: 2

Vertex: A d: inf pi: None

Vertex: B d: 2 pi: E

Vertex: C d: inf pi: None

Vertex: D d: 15 pi: E

Vertex: E d: 8 pi: F

Vertex: F d: 3 pi: G

Vertex: G d: 0 pi: None

Vertex: H d: 10 pi: F

Iteration: 3

Vertex: A d: 4 pi: B

Vertex: B d: 2 pi: E

Vertex: C d: 9 pi: B

Vertex: D d: 15 pi: E

Vertex: E d: 8 pi: F

Vertex: F d: 3 pi: G

Vertex: G d: 0 pi: None

Vertex: H d: 5 pi: B

Iteration: 4

Vertex: A d: 4 pi: B

Vertex: B d: 2 pi: E

Vertex: C d: 9 pi: B

Vertex: D d: 15 pi: E

Vertex: E d: 8 pi: F

Vertex: F d: 3 pi: G

Vertex: G d: 0 pi: None

Vertex: H d: 5 pi: B

Iteration: 5

Vertex: A d: 4 pi: B

Vertex: B d: 2 pi: E

Vertex: C d: 9 pi: B

Vertex: D d: 15 pi: E

Vertex: E d: 8 pi: F

Vertex: F d: 3 pi: G

Vertex: G d: 0 pi: None

Vertex: H d: 5 pi: B

Iteration: 6

Vertex: A d: 4 pi: B

Vertex: B d: 2 pi: E

Vertex: C d: 9 pi: B

Vertex: D d: 15 pi: E

Vertex: E d: 8 pi: F

Vertex: F d: 3 pi: G

Vertex: G d: 0 pi: None

Vertex: H d: 5 pi: B

Iteration: 7

Vertex: A d: 4 pi: B

Vertex: B d: 2 pi: E

Vertex: C d: 9 pi: B

Vertex: D d: 15 pi: E

Vertex: E d: 8 pi: F

Vertex: F d: 3 pi: G

Vertex: G d: 0 pi: None

Vertex: H d: 5 pi: B

Sample output for graph.bellman_ford('z') - Q5

Iteration: Initial

Vertex: s d: inf pi: None

Vertex: t d: inf pi: None

Vertex: x d: inf pi: None

Vertex: y d: inf pi: None

Vertex: z d: 0 pi: None

Iteration: 0

Vertex: s d: 2 pi: z

Vertex: t d: 8 pi: s

Vertex: x d: 7 pi: z

Vertex: y d: 9 pi: s

Vertex: z d: 0 pi: None

Iteration: 1

Vertex: s d: 2 pi: z

Vertex: t d: 5 pi: x

Vertex: x d: 6 pi: y

Vertex: y d: 9 pi: s

Vertex: z d: 0 pi: None

Iteration: 2

Vertex: s d: 2 pi: z

Vertex: t d: 4 pi: x

Vertex: x d: 6 pi: y

Vertex: y d: 9 pi: s

Vertex: z d: 0 pi: None

Iteration: 3

Vertex: s d: 2 pi: z

Vertex: t d: 4 pi: x

Vertex: x d: 6 pi: y

Vertex: y d: 9 pi: s

Vertex: z d: 0 pi: None

Sample output for graph.bellman_ford('s') - Q5 alternate

Iteration: Initial

Vertex: s d: 0 pi: None

Vertex: t d: inf pi: None

Vertex: x d: inf pi: None

Vertex: y d: inf pi: None

Vertex: z d: inf pi: None

Iteration: 0

Vertex: s d: 0 pi: None

Vertex: t d: 6 pi: s

Vertex: x d: inf pi: None

Vertex: y d: 7 pi: s

Vertex: z d: inf pi: None

Iteration: 1

Vertex: s d: 0 pi: None

Vertex: t d: 6 pi: s

Vertex: x d: 4 pi: y

Vertex: y d: 7 pi: s

Vertex: z d: 2 pi: t

Iteration: 2

Vertex: s d: 0 pi: None

Vertex: t d: 2 pi: x

Vertex: x d: 4 pi: y

Vertex: y d: 7 pi: s

Vertex: z d: 2 pi: t

Iteration: 3

Vertex: s d: 0 pi: None

Vertex: t d: 2 pi: x

Vertex: x d: 2 pi: z

Vertex: y d: 7 pi: s

Vertex: z d: -2 pi: t

No Solution

Sample output for graph.dijkstra('s') - Q6

Iteration: Initial

Vertex: s d: 0 pi: None

Vertex: t d: inf pi: None

Vertex: x d: inf pi: None

Vertex: y d: inf pi: None

Vertex: z d: inf pi: None

Iteration: 0

Vertex: s d: 0 pi: None

Vertex: t d: 3 pi: s

Vertex: x d: inf pi: None

Vertex: y d: 5 pi: s

Vertex: z d: inf pi: None

Iteration: 1

Vertex: s d: 0 pi: None

Vertex: t d: 3 pi: s

Vertex: x d: 9 pi: t

Vertex: y d: 5 pi: s

Vertex: z d: inf pi: None

Iteration: 2

Vertex: s d: 0 pi: None

Vertex: t d: 3 pi: s

Vertex: x d: 9 pi: t

Vertex: y d: 5 pi: s

Vertex: z d: 11 pi: y

Iteration: 3

Vertex: s d: 0 pi: None

Vertex: t d: 3 pi: s

Vertex: x d: 9 pi: t

Vertex: y d: 5 pi: s

Vertex: z d: 11 pi: y

Iteration: 4

Vertex: s d: 0 pi: None

Vertex: t d: 3 pi: s

Vertex: x d: 9 pi: t

Vertex: y d: 5 pi: s

Vertex: z d: 11 pi: y