

QUIZ

How is a graph represented in an adjacency matrix?

As a table with vertices as the rows and the columns. The cells of the spreadsheet mark whether an edge exists.



Correct! An adjacency matrix represents every possible edge that could exist in the graph.

As a table with edges as the rows and the columns. The cells of the spreadsheet mark whether a vertex exists.

As a running tally of vertices and edges. 1 is added each time a new vertex or edge is added to the graph.

How is a graph represented in an adjacency list?

Each vertex contains a list of the vertices where an edge exists between them.



Correct! In an adjacency list, only the actual edges that exist are represented.

Each edge contains a list of the vertices where another vertex exists.

Only the edges of the graph are present.

As one single path.

In a weighted graph, edges have a ____ associated with them.

Primary Vertex.

Smell.

Cost.



Correct! In a weighted graph, using an edge to move between vertices has a cost.

Warning.

In an undirected graph, an edge connecting two vertices is bi-directional.

False.

True.



Correct! In an undirected graph, edges are symmetric. An edge between A and B implies an edge between B and A.

In a directed graph, you can always move between two vertices as long as an edge exists between them.

False



Correct! In a directed graph, edges are not bi-directional by default. The direction is specified for each edge.

True

What is the node in a graph called?

A Link.

A Data Point.

A Vertex.



Correct! The plural of vertex is vertices.

A Root.

What is a cycle?

A path which begins and ends at the same vertex.



Correct! We can think of cycles as a kind of loop inside of the graph.

A weighted graph where every edge has the same cost.

One or more vertices connected to one or more edges.

A directed graph where only one edge is bi-directional.

What does it mean for two vertices, or nodes, to be adjacent?

The vertices are directly connected by an edge.



Correct! Adjacent vertices have at least a single edge connecting them.

The vertices have the same data type.

The vertices have an edge with a low cost.

The vertices have a bi-directional edge between them.

What is a path?

A sequence of edges connecting a sequence of vertices.



Correct! The smallest path would be a single edge connected to a vertex, but they can grow infinitely long.

The overall structure of the graph.

The optimal route for moving through the graph.

A clustering of vertices that all contain the same data.

A connection between two vertices is called what?

A Road.

A Bridge.

An Edge.



Correct! Edges signify a connection between two vertices. They can be bi-directional or one-way.

A Trail.