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.