THE GRAPH
REPRESENTATION

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WHAT DO YOU NEED TO
REPRESENT IN A GRAPH?

A WAY TO MODEL A VERTEX
WHICH MAY HOLD SOME
INFORMATION

A WAY TO MODEL DIRECTED
OR UNDIRECTED EDGES

THERE ARE 3 STANDARD WAYS THAT
GRAPHS CAN BE REPRESENTED

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ADJACENCY MATRIX

ADJACENCY LIST

ADJACENCY SET

THE GRAPH INTERFACE

```
public interface Graph {

    enum GraphType {
        DIRECTED,
        UNDIRECTED
    }

    void addEdge(int v1, int v2);

    List<Integer> getAdjacentVertices(int v);
}
```

SET UP AN INTERFACE WITH METHODS ALL GRAPHS SHOULD IMPLEMENT, THE IMPLEMENTATIONS CAN USE THE ADJACENCY MATRIX, ADJACENCY LIST OR ADJACENCY SET

AN ENUM TO INDICATE WHETHER THE GRAPH REPRESENTS AN UNDIRECTED OR DIRECTED GRAPH

AN EDGE LIES BETWEEN TWO VERTICES - VERTICES ARE REPRESENTED BY NUMBERS

HELPER TO GET THE ADJACENT VERTICES FOR ANY VERTEX - A METHOD WHICH IS REQUIRED FOR ALL ALGORITHMS INVOLVING GRAPHS