

Getting Started

This tutorial will help you understand how to use [CS Academy](#) to build a graph that models your network. The link above will take you to this screen:

The screenshot shows the CS Academy interface with the following elements:

- Buttons: Undirected, Directed, 0-index, 1-index, Custom Labels, Force, Draw, Edit, Delete, Config.
- Node Count: 1 | 0
- Graph Data: 1 |
- Draw mode section: This mode allows you to draw new nodes and/or edges. Ways you can interact with the graph:
 - Clicking anywhere on the graph canvas creates a new node.
 - Clicking on a node starts the drawing process of a new edge.
 - To cancel the new edge, click anywhere on the canvas.
 - To finish drawing the edge, click on the desired neighbour.

Your graph will appear in the center box (red circle). There are two ways to build, label, and edit graphs: using the table on the left (blue circle) or by clicking directly in the center box.

The screenshot shows the CS Academy interface with annotations:

- A blue rounded rectangle highlights the Node Count and Graph Data table on the left.
- A red rounded rectangle highlights the central graph canvas.
- The interface elements and text are the same as in the previous screenshot.

Building and Editing Graphs by Clicking in the Center Box

On the right side of the screen, there are five modes that allow you to build and edit graphs. Selecting a mode reveals a set of instructions for how to use that mode. For example, the image below shows the “Draw” mode selected and a description for how to use it to build your graph.

Node Count:
1 8
Graph Data:
1

Draw mode
This mode allows you to draw new nodes and/or edges.
Ways you can interact with the graph:

- Clicking anywhere on the graph canvas creates a new node.
- Clicking on a node starts the drawing process of a new edge.
- To cancel the new edge, click anywhere on the canvas.
- To finish drawing the edge, click on the desired neighbour.

Play around with the different modes to learn how to build, label, and edit graphs by clicking directly in the center box.

Building and Editing Graphs using the Table

You can also use the table on the left side of the screen to build and edit graphs.

Node Count:
1 3
Graph Data:

| | | | |
|---|-----|-----|----|
| 1 | Dog | | |
| 2 | Cat | | |
| 3 | Pig | | |
| 4 | Dog | Cat | 8 |
| 5 | Pig | Cat | 15 |
| 6 | Pig | Dog | 1 |
| 7 | | | |

Nodes

Edges

Edge weights

Order edge or node was added to the graph

```
graph TD; Pig((Pig)) ---|1| Dog((Dog)); Pig ---|15| Cat((Cat)); Dog ---|8| Cat;
```

Adding and Editing Nodes: To add a node enter the name of the node without spaces. Edit the name by typing directly in the table. ***For example,*** object 2 is a node labeled “Cat.” ***Note:*** no two nodes can have the same name.

Adding and Editing Edges: To add an edge between two nodes, write the names of the two nodes separated by a space. Edit the edge by typing directly in the table. ***For example,*** object 5 is an edge connecting the nodes “Pig” and “Cat.”

Assigning and Editing Edge Weights or Labels: Add a space after the second node and write the edge weight or label without spaces. Edit the edge weight or label by typing directly in the table. ***For example,*** object 6 is an edge connecting the nodes “Pig” and “Dog” and has a weight of 1 unit.

Removing Nodes or Edges: To delete a node or edge, delete the row or table containing the node or edge.

Saving Work: Do not close the tab unless you have taken a screenshot. The program will not save your graph if you exit and come back later.