

**Node Features**  
`x = torch.tensor`  
`[[1,0,0], [0,1,0], ...]]`

```
graph TD; A["Node Features  
x = torch.tensor  
[[1,0,0], [0,1,0], ...]]"] --> B["Edge Index  
edge_index = torch.tensor  
[[0,1,1,2,...], [1,0,2,1,...]]"]; B --> C["Graph Data  
data = Data(x=x, edge_index)"]; C --> D["GCN Layer  
conv = GCNConv(  
in_channels=3, out_channels=2)"]; D --> E["Forward Pass  
output = conv(  
data.x, data.edge_index)"]; E --> F["Output Features  
Shape: [4,2]  
4 nodes x 2 features"];
```

**Edge Index**  
`edge_index = torch.tensor`  
`[[0,1,1,2,...], [1,0,2,1,...]]`

**Graph Data**  
`data = Data(x=x, edge_index)`

**GCN Layer**  
`conv = GCNConv(  
in_channels=3, out_channels=2)`

**Forward Pass**  
`output = conv(  
data.x, data.edge_index)`

**Output Features**  
**Shape: [4,2]**  
**4 nodes × 2 features**