# Step-1

If the graph has $n$ nodes, avoiding an edge from a node to itself, we have $n - 1$ nodes left to which edges are connected.

We follow that each node is connected to $n - 1$ other nodes of the graph.

So, the total number of connections is $n(n-1)$

But each edge is incident on two nodes.

So, each edge is counted twice.

To avoid this doubling, we halve the total number of connections to get the number of edges present in the complete graph.

That is the number of edges in the complete graph of $n$ nodes is $\boxed{\dfrac{n(n-1)}{2}}$