

Is this graph bipartite?

- ☒ No, because it contains the cycle (A, B, F, D, C, A)
- ☐ Yes
- ☐ It's bipartite and non-bipartite simultaneously
- ☐ No, because it contains the cycle (A, C, D, E, A)

✓ **Correct**

Correct, a bipartite graph cannot contain a cycle of odd length.

2. Are all trees bipartite?

Are all bipartite graphs trees?

- ☐ All bipartite graphs are trees
- ☐ Some trees are not bipartite
- ☒ Some bipartite graphs are not trees

✓ **Correct**

Correct, trees are connected graphs without cycles, while bipartite graphs are not necessarily connected and may contain cycles of even length.

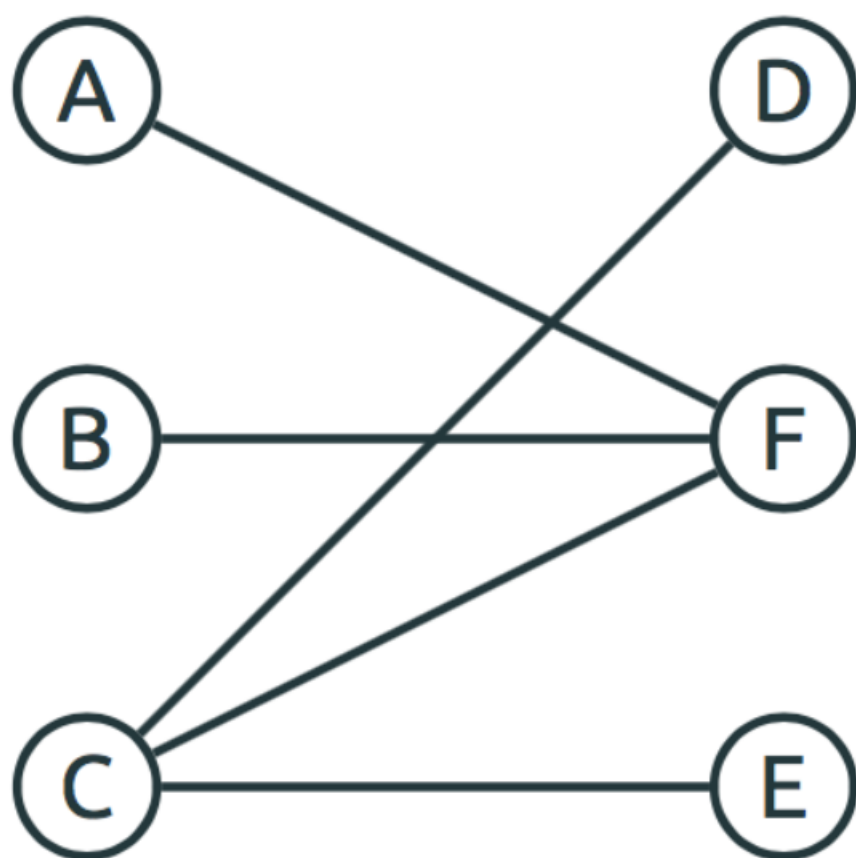
- ☒ All trees are bipartite

✓ **Correct**

Correct, every tree can be colored in two colors such that each edge connects vertices from different parts. Review the video on [Bipartite Graphs](#)

3.

1 / 1 point



Does this graph have a matching which covers the vertices A, B and C?

☐ Yes

☒ No

✓ **Correct**

Correct, the vertices A and B are only connected to F, thus, there is no matching which covers A, B, and C.

4.

1 / 1 point

Is there an assignment which fills all job openings?

	Alice	Ben	Chris	Diana
Administrator	+			+
Programmer			+	
Librarian		+	+	+
Professor		+		

☒ Yes

☐ No

☒ **Correct**

Correct, for example, Alice can be Administrator, Ben -- Professor, Chris - Programmer, and Diana - Librarian.