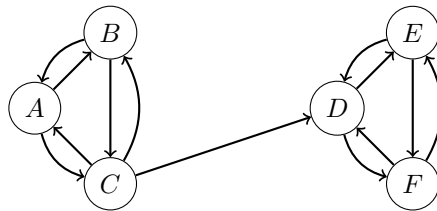Pre-lecture exercises will not be collected for credit. However, you will get more out of each lecture if you do them, and they will be referenced during lecture. We recommend **writing out** your answers to pre-lecture exercises before class. Pre-lecture exercises usually should not take you more than 20 minutes.

Consider the following graph:

1. What happens if you run DFS to explore the graph, starting from B?

2. What happens if you run DFS to explore the graph, starting from F?

3. Suppose you wanted to separate the two clusters $\{A, B, C\}$ and $\{D, E, F\}$ from each other. Based on your answer above, how might you use DFS to do this?

SOLUTION:

1. You reach the whole graph.

2. You reach only the right-hand cluster.

3. Run DFS starting from F and then remove everything you find. Of course, it's not at all clear how to decide which vertex to start DFS from...(see Lecture 10 for how to do this!)