

**Assignment***Using Graph Theory to Model Systems*

Our math department has 10 classes that need to be scheduled in the spring. Below is a list of classes that cannot be scheduled at the same time due to teacher or enrollment constraints.

<b>Class</b>	<b>Cannot be Scheduled During the Same Period as</b>
<b>A</b>	<b>D, I</b>
<b>B</b>	<b>D, I, J</b>
<b>C</b>	<b>E, F, I</b>
<b>D</b>	<b>A, B, F</b>
<b>E</b>	<b>C, H, I</b>
<b>F</b>	<b>C, D, I</b>
<b>G</b>	<b>J</b>
<b>H</b>	<b>E, I, J</b>
<b>I</b>	<b>A, B, C, E, F, H</b>
<b>J</b>	<b>B, G, H</b>

**Task**

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In the space below, draw a graph that represents the information in the table that will help you determine the minimum number of periods required to schedule every class.

**Analysis**

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Briefly explain using complete sentences how you can use the graph you drew to determine the minimum number of periods required to schedule every class.