

Connect the Villa Dots



History:

The Villa was the original building of Mount Saint Mary College. The original Sisters purchased The Villa in 1913, which was then known as Rosenhof. At one time this building included classrooms, dorms, dining area, labs, offices, and other main areas of the campus. The great design of the building consisted of Gothic Revival architecture. As you walk by the Villa you can see the great designs and architecture of the outside. When you walk in to get to admissions or the office of the President you can imagine being one of the first students walking into the one and only building on campus.

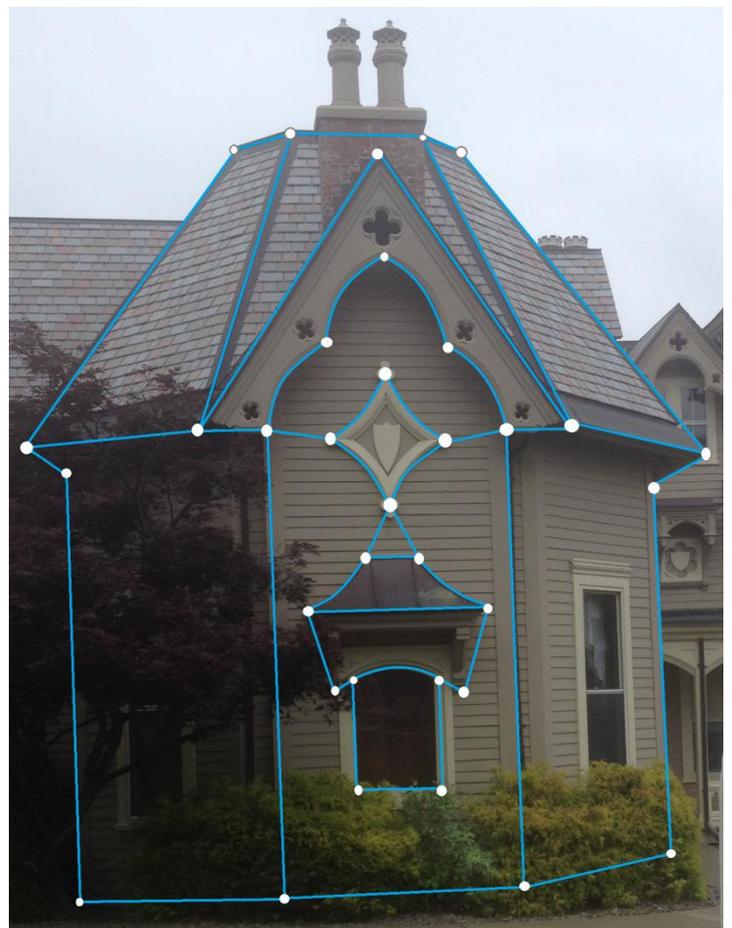
Problem:

Can a connect-the-dots picture be made of the Villa?

Using the graph created, decide whether you can create an Euler Path, an Euler Circuit, or neither when you connect the Villa dots.

If you can create an Euler path or circuit, show how you would connect the dots using arrows.

If you are not able to create a path or circuit what lines would have to be added in to create one?

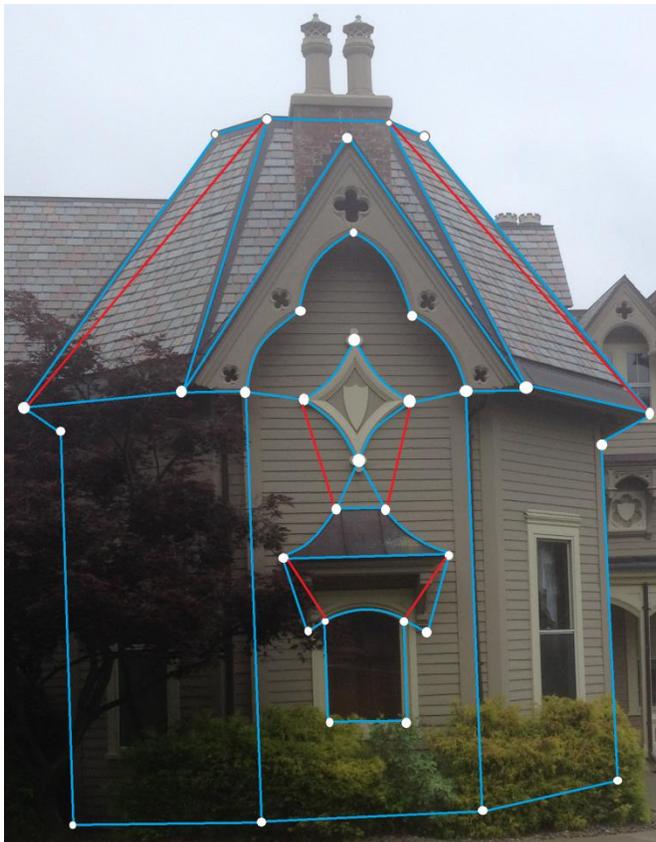


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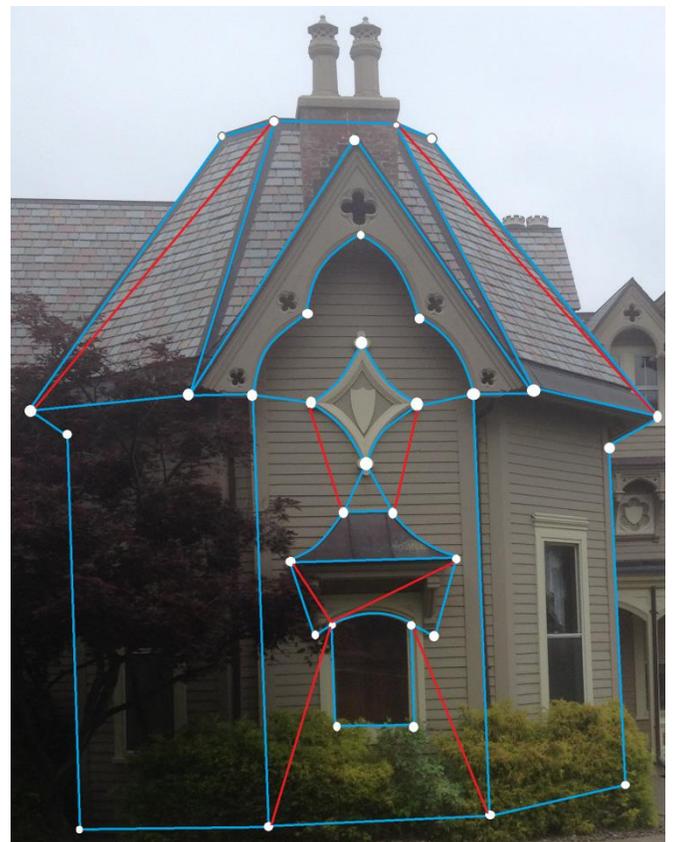
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Solution:

A connect-the-dots picture cannot be made. The graph that is given has neither an Euler path nor an Euler Circuit. There are more than two odd vertices. Below are possible depictions of creating an Euler Path and creating a Euler Circuit by adding more edges.



This has an Euler Path since it has only two odd vertices.



This has an Euler Circuit since there are no odd vertices.