

This miniproject asks you to create graphs where the vertices represent MSUM buildings. Consider the following MSUM buildings.

Bridges Hall	Livingston Lord Library	Owens Hall
Flora Frick Hall	Lommen Hall	
Hagen Hall	Maclean Hall	Science Lab Building
King Biology Hall	Nemzek Hall	Weld Hall

- (a) Create a graph with the vertices representing the buildings and where an edge connects two buildings if you can get from one to another without going outside.
- (b) Create a graph with the vertices representing the buildings and where an edge connects two buildings if you can get from one to another without going outside *and* without going through another building.
- (c) Create a graph with the vertices representing the buildings and where an edge connects two buildings if *you* have a class in each of them this semester.
- (d) Create a graph with the vertices representing the buildings and where an edge connects two buildings if *you* have been in both of them in the previous seven days (state which seven days that you are talking about).
- (e) Is the graph in part (a) a connected graph?
- (f) Is the graph in part (b) a connected graph?
- (g) Is the graph in part (c) a connected graph?
- (h) Is the graph in part (d) a connected graph?
- (i) Are there any isolated vertices in the graph in part (a)? If so, which ones?
- (j) Are there any isolated vertices in the graph in part (b)? If so, which ones?
- (k) Are there any isolated vertices in the graph in part (c)? If so, which ones?
- (l) Are there any isolated vertices in the graph in part (d)? If so, which ones?