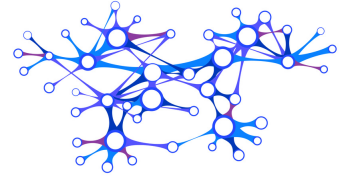


Level 3 Special Project

Graphs



Prerequisite Concepts	Concept 12
Key Concepts	Concept 15

The graph shown in Figure 1 consists of 12 vertices and $9 * 3 = 27$ edges. These 12 vertices can be partitioned into 4 disjoint sets each containing 3 vertices. The first set, V_1 , consists of the 3 vertices that are located on the left. The second set, V_2 , consists of the 3 vertices located on the top. The third set, V_3 , consists of the 3 vertices located on the right, and the fourth set, V_4 , consists of the 3 vertices located on the bottom. Note that each vertex in V_4 is mapped to all the vertices in V_1 , V_2 , and V_3 . Also note that the edges connected to vertices in V_1 , V_2 , and V_3 are blue, red, and yellow respectively.

Using the higher-order function *map*, write a Bricklayer program that creates a graph similar to the one shown below. Before building this artifact it is recommended that you complete all Vitruvia exercises for Concept 15.

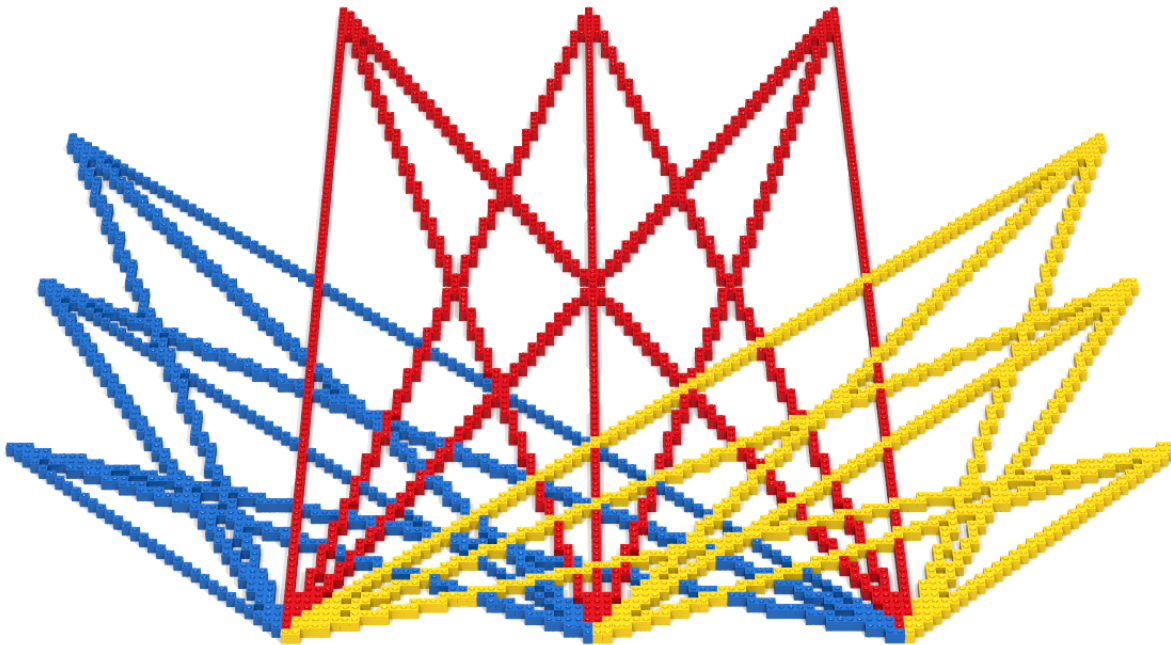


Figure 1: A graph consisting of 12 vertices and 27 edges.

