**Today:** Data Structures for Disjoint Sets 21.{0,1,2,3}
**Next class:** Synthesis and review.
**Reminders:** Portfolio/poster. Homework. Newsgroup. Reading. Coding. Practice.

1. List the members of your group below. Underline your name.

2. Depict the following graph using the usual conventions.

$$\begin{aligned} G &= (V, E) \\ V &= [16] = \{1, 2, 3, \ldots, 16\} \\ E &= \bigcup_{k=0}^{3} \{(4k+1, 4k+2), (4k+1, 4k+3), (4k+3, 4k+4)\} \end{aligned}$$

3. Trace the CONNECTED-COMPONENTS algorithm on the above graph, using Figure 21.1 of the textbook as a template.

4. Assuming the linked-list implementation of disjoint-sets, depict the state of the data structure after the 7th iteration of the second for-loop of the algorithm in the trace of Question 3

5. Repeat Question 4 using the rooted-trees implementation (disjoint-set forests).

6. [self study] Generalize the graph of Question 2 to $G_c$, a graph with $c^2$ vertices and $c$ connected components. (Define $V$ and $E$ as a function of $r$, preserving as much of the character of $G$ as possible.) Repeat the other questions on $G_r$ for a few values of $r$.