

Mini Assignment 16

Due: 11:20am on April 23rd, 2019

20 points

Answer the following questions and submit a pdf solution to the dropbox on d2l:

1. Assume that an undirected graph has V vertices. What is the minimum number of edges that must exist in order for there to be a path from a vertex to every other vertex? For example, consider a vertex set of $\{1, 2, 3, 4, 5\}$ and an edge set of $(1, 2), (4, 5)$. In this case, there is no path from 1 to 5.

If V is 0, 0, otherwise $V - 1$.

2. Assume that an undirected graph has 6 vertices. What is the maximum number of edges that can be in that graph?

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3. (OPTIONAL) Assume that an undirected graph has V vertices. What is the maximum number of edges that can be in that graph? You should have a formula with respect to V .

If V is 0, 0, otherwise $\sum_{i=0}^{V-1} i$.