Homework 5: Q3

**Name:** Xinkai Lin, xinkaili

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# **Algorithm Idea**

For this algorithm, I would create three for loop together. The first for loop it will iterated all nodes in the graph from {i0 … in}. Then, inside that I would have my second for loop. This for loop is mean to iterated all the edge nodes that is connected to the parent node from {j0 … jn}. Lastly, I would have my third for loop. It would iterate all the edge that is connected to the j from {k0 … kn}. If the edge is not its parent and i, j, k is all connected with each other then there is a cycle and it is a triangle. Each for loop will run at O(n) time, and the final run times for this algorithm is O(n)\*O(n)\*O(n), which is O(n3).

# **Algorithm Idea**

Begin Algorithm Idea

# **Algorithm Details**

**Algorithm: Algorithm**

# **Proof Idea**

Begin Proof Idea

# **Runtime Analysis of Algorithm**

Begin Runtime analysis

# **Algorithm Idea**

Begin Algorithm Idea

1. **Runtime Analysis of Algorithm**

Begin Runtime Analysis