Homework 3: Q2

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1. **Part(a): Algorithm Details**

**Algorithm:** Algorithm1 :refer to recitation notes

1. **Part (a): Big-Oh Runtime Analysis**

**To prove the Algorithm is O(n), I will analyze each action taken in the algorithm. First, we will call Q1, which is O(n) time. Than we will iterate index 0 to n which give O(n), in which in each iteration we access specific indexes in arrays and multiply, which is O(1).**

**O(n)+O(n)\*O(1). There is no other step, thus, the big-oh runtime ends up being O(n) since O(n)\*O(1) is O(n) and O(n) + O(n) = O(n)**

1. **Part (b): Algorithm idea**
2. **Part (b): Algorithm Details**

**Algorithm:** Algorithm 2

1. **Part (b): Big-Oh Runtime Analysis**
2. **Part (b): Big-Omega Runtime Analysis**