Q1:

As n starts off and is small, f1 has the greatest value, followed by f3 and finally f2.

Chart, line chart

Description automatically generated

As n continues to increase, f3 overtakes f1 in value, while f2 is the least but showing exponential growth

Chart, line chart

Description automatically generated

As n is very large, f2 has the largest value, and f3 has the second highest, while f1 is the least. f3 and f1 have lower rates of growth than f2.

Chart

Description automatically generated

**Python Code:**

import math

import numpy as np

import matplotlib.pyplot as plt

msize = [5, 15, 50]

# red dashes, blue squares and green triangles

# plt.plot(t, t, 'r--', t, t\*\*3.5 - 2\*\*10, 'bs', t, 100\*t\*\*2.1 + 50, 'g^')

for item in msize:

    t = np.arange(0, item, 0.1)

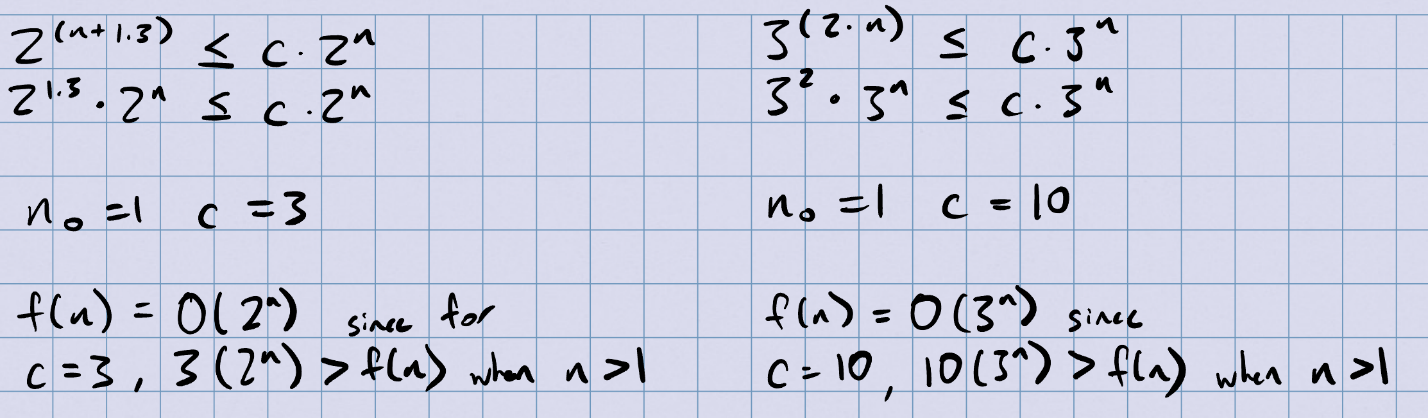
    plt.plot(t, (2\*\*10)\*t + (2\*\*10) , 'red', t, t\*\*3.5 - 1000, 'blue', t, 100\*t\*\*2.1 + 50, 'green')

    plt.xlim(0, item)

    plt.rcParams["figure.figsize"] = (7,7)

    plt.show()

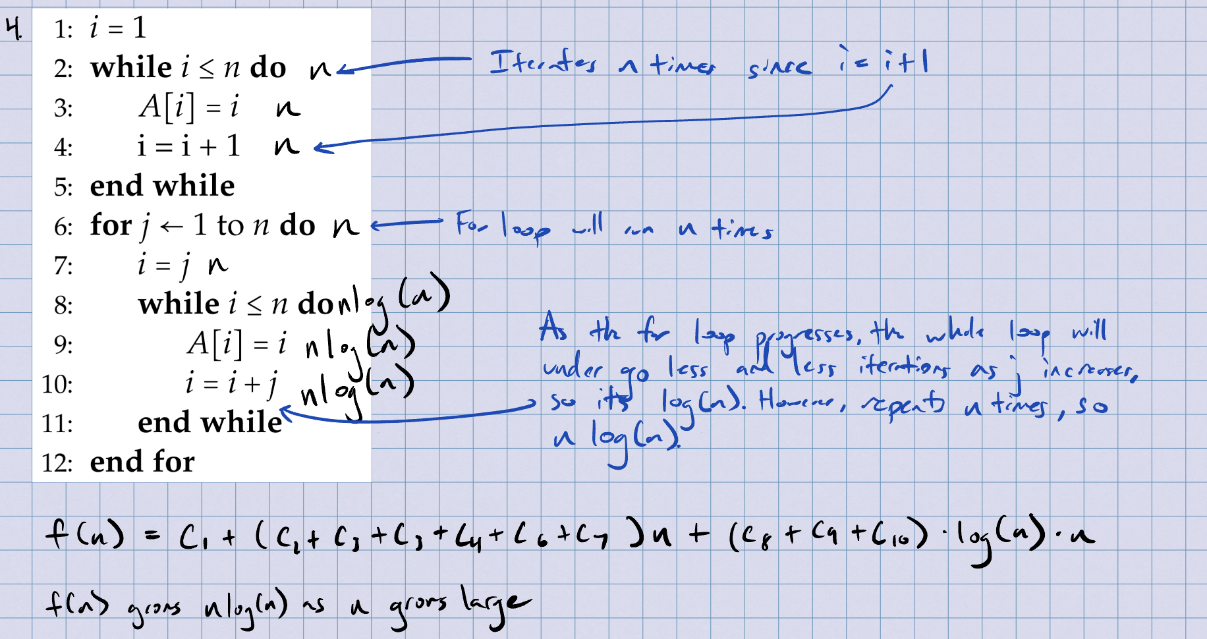
Q2:



Q3: Table

Description automatically generated

Q4:



Q5:

