Question 1

The general idea to maximize the profit from investments would be to maximize the present day value (PV) of the investments made. My approach to this was to make as much money as possible as early as possible (so that I maximize the money made in PV). So first I am going to calculate the present value of each of the investments made using the formula learnt in lecture:

Present Value = (Future Value) / ((1 + discount rate)^time)

I used this formula in my excel sheet to calculate the present value of every investment possible and found that after one year, only one investment actually makes you money in present value due to the discount rate being so high. Investment 1 gives a gain of $13,000 in present value, whereas Investment 3 actually loses you $833 in PV, and Investment 2, after accounting for the money made in PV, actually gains you no money. Therefore, Investment 3 will be a loss if you invest, and Investment 2 will gain you nothing overall.

I would recommend only investing in investment opportunity 1, as that is the only opportunity that will provide a profit in present value dollars.

Question 2

The terminal value of the project is $7,056,031. I got this by following Professor Amato and guest lecturers' class teachings, and all of my work is shown in my excel spreadsheet (Question 2 sheet).

Question 3

a) I used the equation

TV = [(Last_forecasted_value) * (1 + growth_rate)] / (discount_rate - growth_rate)

for calculating the terminal value (in excel), and got a resulting TV of $743,142.86.

b) The enterprise value was calculated by summing all of the present values of the FCFs and the present value of the terminal value. This resulted in an enterprise value of $526,905. The % of the enterprise value that comes from cash flows 5 years or further away is 76.4%.

This is because the question asks the contribution from 5 years or further away - which means we include the PV of the terminal value and the PV of the FCF from year 5.