Assessed Exercise 3

1. Segment 1

Instruction 1: int n = Int32.Parse(Console.ReadLine());

Frequency Count = 1

Instruction 2: LinkedList<int> sumSequence = new LinkedList<int>();

Frequency Count = 1

Instruction 3: sumSequence.AddLast(0);

Frequency Count = 0

Instruction 4: sumSequence.AddLast(1);

Frequency Count = 0

Instruction 5: for (int i = 2; i < n; i++)

Frequency Count = n-1

Instruction 6: int currentSum = 0;

Frequency Count = n-2

Instruction 7: for (int j = i - 1; j > 0; j--)

Frequency Count = (n-3)[1+(n-3)]/2 = 0.5n2 -2.5n+3

Instruction 8: currentSum += sumSequence.ElementAt(j);

Frequency Count = (n-3)[1+(n-3)]/2 = 0.5n2 -2.5n+3

Instruction 9: sumSequence.AddLast(currentSum);

Frequency Count = n-2

Instruction 10: for (int i = 0; i < sumSequence.Count(); i++)

Frequency Count = n-1

Instruction 11: Console.WriteLine(sumSequence.ElementAt(i));

Frequency Count = n-2

Frequency Count total = 1+1+0+0+(n-1)+(n-2)+( 0.5n2 -2.5n+3)+ (0.5n2 -2.5n+3)+(n-2) +(n-1) + (n-2) = n2

Big O = O(n2)

Segment 2

Instruction 1: LinkedList<string> names = new LinkedList<string>();

Frequency Count = 1

Instruction 2: string input = "";

Frequency Count = 1

Instruction 3: Console.WriteLine("Please enter who is attending!");

Frequency Count = 1

Instruction 4: Console.WriteLine("Type '!' to finish name entry...");

Frequency Count = 1

Instruction 5: Console.WriteLine("---");

Frequency Count = 1

Instruction 6: while (!input.Equals("!")){

Frequency Count = n+1

Instruction 7: Console.WriteLine("Please enter name: ");

Frequency Count = n

Instruction 8: input = Console.ReadLine();

Frequency Count = n

Instruction 9: names.AddLast(input);

Frequency Count = n

Instruction 10: Console.WriteLine("The following are attending: ");

Frequency Count = 1

Instruction 11: for(int i = 0; i < names.Count(); i++)

Frequency Count = n+1

Instruction 12: Console.WriteLine(names.ElementAt(i));

Frequency Count = n

Frequency Count total = 1+1+1+1+1+(n+1)+n+n+n+1+(n+1)+n= 6n+8

Big O = O(n)