Lab 1 Practical Obtain Sequence Introduction

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| --- | --- | --- | --- | --- | --- | --- |
| A | 1 | 2 | 3 | … | n-1 | n |
| B | n | n-1 | n-2 | … | 2 | 1 |
| A + B | n+1 | n+1 | n+1 |  | n+1 | n+1 |

1. A = 1 + 2 + 3 + … + (n-1) + n

B = n +(n-1) + … + 3 + 2+ 1

A+B = 1+n + (2 + (n-1)) + ...

= (n+1) +(n+1) + …..

= n(n+1)

2) A=B => A+B = 2B = 2B

=> A+B = 2A = n(n+1)

High School

When sequnce has constant diference => Arithmetic

When sequnce has constant ratio => Geometric

University

Sequence solutions to diferential equations => power series

<http://people.math.sc.edu/girardi/m142/handouts/10sTaylorPolySeries.pdf>

**Practical Task Obtain Sequence Solutions**

Write a java program that calculates the power series for sin(x)