Question 1

Given

Analytical solution:

Given Initial condition

Then,

**Euler's Modified Method (EMM)**

Algorithm

Predictor

Corrector 1

Corrector 2

Where

Algorithm Steps

1. Compute initial slope at beginning of interval

Next value

1. First prediction

1. Correction 1

Slope @ predicted point

Average slope for next value

1. Correction 2

1. Final value

Parameters

* Step sizes: and
* Function: