The models were utilised and compared as described in section 4.1. The Verlet method was found to be the most accurate for modelling forced and unforced oscillation. The investigation into the effects of the step size onto the accuracy has been conducted. It has shown the inverse proportionality between the step size and the accuracy. This was especially apparent for the less accurate Euler’s method. It can be deduced that the smaller the size of the interval the better the prediction. It is advised to always use the smallest step size possible. However, it is apparent that the decrease of the time interval gives diminishing returns after passing the size.

The application of a constant force onto an oscillator produced a transition period after which the oscillation resumed with a shift in phase and amplitude. The sinusoidal force has been investigated with the use of a resonance plot. It was confirmed that the sharp amplitude increase occurs at the frequency close to the natural frequency of the oscillator. Lastly the Verlet method was utilised to observe the behaviour of the oscillator in the case of being heavily damped and critically damped (as described in section 4.2). It was also confirmed that resonance did not occur when the oscillator was heavily or critically damped.