Testing Report

Fuctional Based Testing:

Test Case	Function	Input Values	Return Values	Pass/Fail
1	Start() : graph constructor	None	void	Pass
2	connectTwoNodesDraw(): connects two nodes together by drawing a node between them	Node1 : GameObject, Node2: GameObject	void	Pass
3	Update(): called 60 times every second to update the graph	None	void	Pass
4	createGraph(): reads in data from file and stores the data in an array of gameobjects	vertexList: List<GameObject>, pairsList : List<GameObject>, nodePrefab: GameObject	void	Pass

We made use of visual studios Unit Test Framework

```
using System;
using Microsoft.VisualStudio.TestTools.UnitTesting;

namespace UnitTestAppsynth1
{
    [TestClass]
    public class UnitTest1
    {
        [TestClass]
        public class RomanNumeralConverterUpperAndLowerBoundsUnitTests
        {

            [TestMethod]
            [ExpectedException(typeof(IndexOutOfRangeException))]
            public void Start_TestMethod()
            {
                var converter = new RomanNumeralConverter();
                converter.ConvertRomanNumeral(3001);
            }

            [TestMethod]
            [ExpectedException(typeof(IndexOutOfRangeException))]
            public void connectTwoNodesDraw_TestMethod()
            {
                var converter = new RomanNumeralConverter();
                converter.ConvertRomanNumeral(3001);
            }

            [TestMethod]
            [ExpectedException(typeof(IndexOutOfRangeException))]
            public void Update_TestMethod()
            {
                var converter = new RomanNumeralConverter();
                converter.ConvertRomanNumeral(3001);
            }

            [TestMethod]
            [ExpectedException(typeof(IndexOutOfRangeException))]
            public void createGraph()
            {
                var converter = new RomanNumeralConverter();
                converter.ConvertRomanNumeral(3001);
            }
        }
    }
}
```

User Case Based Testing process 1

Test Case	Specification	Expected Results	Actual Result
1	Reading Graph from an input file json/txt	Successful reading of file	Successful
2	Force directed graph construction	Successful construction of graph inside unity environment	Failed some nodes are out of possition
3	Graph Rotation	Successful rotation of graph around the x-axis	Failed graph is loosing shape when rotating
4	Desktop display of graph visualization	Successful visualization of the graph on the desktop	Successful
5	Deployment of .apk file onto mobile phone with VR capabilities	Successful creation of working android application	Successful
6	Visualization of the graph in Virtual Reality	Successful visualization of the graph on the mobile phone in vR	Successful

Additional Comments:

1.The graph rotation looses shape during rotation, and the environment around it make a bit hard to view the graph.

User Case Based Testing process 2

Test Case	Specification	Expected Results	Actual Result
1	Reading Graph from an input file json/txt	Successful reading of file	Successful
2	Force directed graph construction	Successful construction of graph inside unity environment	Successful
3	Graph Rotation	Successful rotation of graph around the x-axis	Successful
4	Desktop display of graph visualization	Successful visualization of the graph on the desktop	Successful
5	Deployment of .apk file onto mobile phone with VR capabilities	Successful creation of working android application	Successful
6	Visualization of the graph in Virtual Reality	Successful visualization of the graph on the mobile phone in vR	Not reading text file when displayed on mobile phone

User Case Based Testing process 3

Test Case	Specification	Expected Results	Actual Result
1	Reading Graph from an input file json/txt	Successful reading of file	Successful
2	Force directed graph construction	Successful construction of graph inside unity environment	Successful
3	Graph Rotation	Successful rotation of graph around the x-axis	Successful
4	Desktop display of graph visualization	Successful visualization of the graph on the desktop	Successful
5	Deployment of .apk file onto mobile phone with VR capabilities	Successful creation of working android application	Successful
6	Visualization of the graph in Virtual Reality	Successful visualization of the graph on the mobile phone in vR	Successful