**NANYANG TECHNOLOGICAL**

**UNIVERSITY**

**CZ2003**

**COMPUTER GRAPHICS**

**AND**

**VISUALIZATION**

**Labs Assessment**

**Lab 1: Visualization using Polygons**

**Report**

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***\*Note: All .wrl files are found in Lab 1 🡪 Files.***

**Task 1: Displaying simple polygon mesh (File Name: polygons)**

|  |
| --- |
| **C:\Users\mock_\Desktop\Yr 3 Sem 1 Modules\CZ2003 Computer Graphics & Visualisation\Labs\Lab 1\Simple_Polygon_Mesh.PNG** |

**Task 2: Exploring different graphic modes (File Name: polygons)**

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| --- |
| **Wireframe:**  C:\Users\mock_\Desktop\Yr 3 Sem 1 Modules\CZ2003 Computer Graphics & Visualisation\Labs\Lab 1\Simple_Polygon_Mesh_Wireframe.PNG |
| **Vertices:**    *\*Polygon mesh is not visible in Vertices mode.* |
| **Flat:** |

**Task 3:** Changing color of shape **(File Name: polygons\_Color\_Change, polygons\_Color\_Change\_II)**

|  |  |
| --- | --- |
| Value in ***diffuseColor*** field is changed to **1 1 0**. | Value in ***diffuseColor*** field is changed to **1 0.5 0.8**. |

*\*Task 4 begins on the next page*

**Task 4: Making 2D Hexagon, 3D Cube**

|  |  |
| --- | --- |
| **2D Hexagon**  **File Name: polygons\_2d\_Hexagon**    A 2D Hexagon can be defined by the following coordinates:  coord Coordinate {  point [    -0.5 0.866 0 #vertex 0  -1 0 0, #vertex 1  -0.5 -0.866 0, #vertex 2  0.5 -0.866 0, #vertex 3  1 0 0, #vertex 4  0.5 0.866 0, #vertex 5  ]  }    coordIndex [  0,1,2,3,4,5,-1  ] | **3D Cube**  **File Name: polygons\_3d\_Cube**    To make a 3D Cube, the coordinates are adjusted to the following:  coord Coordinate {  point [  1 1 1, #vertex 0  -1 1 1, #vertex 1  -1 -1 1, #vertex 2  1 -1 1, #vertex 3  1 1 -1, #vertex 4  -1 1 -1, #vertex 5  -1 -1 -1, #vertex 6  1 -1 -1 #vertex 7  ]  }    coordIndex [  0, 1, 2, 3, -1,  0, 4, 5, 1, -1,  5, 4, 7, 6, -1,  1, 5, 6, 2, -1,  4, 0, 3, 7 -1,  3, 2, 6, 7, -1  ] |

**--- END OF REPORT ---**