2017 winter – Modelling

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# Q2

## A)

Put the origin at the centre of mass. This allows for even scaling and even rotation

## B)

|  |  |  |  |
| --- | --- | --- | --- |
|  | X | Y | Z |
| 0 | -1 | -1 | -1 |
| 1 | 1 | -1 | -1 |
| 2 | 1 | 1 | -1 |
| 3 | -1 | 1 | -1 |
| 4 | -1 | -1 | 1 |
| 5 | 1 | -1 | 1 |
| 6 | 1 | 1 | 1 |
| 7 | -1 | 1 | 1 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 0 | 0 | 1 | 2 | 3 |
| 1 | 4 | 5 | 6 | 7 |
| 2 | 0 | 1 | 4 | 5 |
| 3 | 2 | 3 | 6 | 7 |
| 4 | 1 | 2 | 5 | 6 |
| 5 | 0 | 3 | 4 | 7 |

## C)

Texturing is where 2D images are applied to 3D objects by adding images to surface of objects

## D)

(1,1)

|  |  |  |
| --- | --- | --- |
| 9 | 10 | 11 |
| 5 | 6 | 7 |

8

40

0

1

(0,0)

30

2

|  |  |  |
| --- | --- | --- |
|  | U | V |
| 0 | 0 | 0 |
| 1 | 0.33 | 0 |
| 2 | 0.66 | 0 |
| 3 | 1 | 0 |
| 4 | 0 | 0.5 |
| 5 | 0.33 | 0.5 |
| 6 | 0.66 | 0.5 |
| 7 | 1 | 0.5 |
| 8 | 0 | 1 |
| 9 | 0.33 | 1 |
| 10 | 0.66 | 1 |
| 11 | 1 | 1 |

Texture Vertex List

|  |  |
| --- | --- |
| Front | 4, 5, 9, 8 |
| Back | 2, 3, 7 ,6 |
| Right | 5, 6, 10, 9 |
| Left | 1, 2, 6, 5 |
| Top | 6, 7, 11, 10 |
| Bottom | 0, 1, 5, 4 |

Texture Face(Index) List