

Nama : Nabila A'idah Diani  
NRP : 5025211032  
Kelas : Grafika Komputer A

## Tugas Texture Mapping

### 1. Code yang ditambahkan

```
function draw() {  
    gl.clearColor(0,0,0,1);  
    gl.clear(gl.COLOR_BUFFER_BIT | gl.DEPTH_BUFFER_BIT);  
  
    /* Set up modelview to hold the viewing transform. */  
  
    mat4.lookAt(modelview, [0,0,10], [0,0,0], [0,1,0]);  
    mat4.rotateX(modelview, modelview, rotateX);  
    mat4.rotateY(modelview, modelview, rotateY);  
    mat4.rotateZ(modelview, modelview, rotateZ);  
  
    drawSquare(textureObjects[0]); // back face  
    mat4.rotateY(modelview, modelview, Math.PI/2);  
    drawSquare(textureObjects[1]); // left face  
    mat4.rotateY(modelview, modelview, Math.PI/2);  
    drawSquare(textureObjects[2]); // front face  
    mat4.rotateY(modelview, modelview, Math.PI/2);  
    drawSquare(textureObjects[3]); // right face  
    mat4.rotateX(modelview, modelview, -Math.PI/2);  
    drawSquare(textureObjects[4]); // top face  
    mat4.rotateX(modelview, modelview, Math.PI);  
    drawSquare(textureObjects[5]); // bottom face  
}
```

```
/* Initialize the WebGL context. Called from init() */  
function initGL() {  
    let prog = createProgram( gl, vertexShaderSource, fragmentShaderSource );  
    gl.useProgram(prog);  
  
    let aCoordsLoc = gl.getAttributeLocation(prog, "a_coords");
```

```

let coordsBuf = gl.createBuffer();
gl.bindBuffer( gl.ARRAY_BUFFER, coordsBuf );
let coords = new Float32Array( [ -1,-1,1, 1,-1,1, 1,1,1, -1,1,1 ] );
gl.bufferData( gl.ARRAY_BUFFER, coords, gl.STATIC_DRAW );
gl.vertexAttribPointer(aCoordsLoc, 3, gl.FLOAT, false, 0, 0);
gl.enableVertexAttribArray(aCoordsLoc);

let aTexCoordsLoc = gl.getAttribLocation(prog, "a_texCoords");
let tCoordsBuf = gl.createBuffer();
gl.bindBuffer( gl.ARRAY_BUFFER, tCoordsBuf );
let tCoords = new Float32Array( [ 0,0, 1,0, 1,1, 0,1 ] );
gl.bufferData( gl.ARRAY_BUFFER, tCoords, gl.STATIC_DRAW );
gl.vertexAttribPointer(aTexCoordsLoc, 2, gl.FLOAT, false, 0, 0);
gl.enableVertexAttribArray(aTexCoordsLoc);

uTransformMatrixLoc = gl.getUniformLocation(prog, "u_transformMatrix");
uNormalMatrixLoc = gl.getUniformLocation(prog, "u_normalMatrix");

let uNormalLoc = gl.getUniformLocation(prog, "u_normal");
gl.uniform3f(uNormalLoc, 0, 0, 1);
let uDiffuseLoc = gl.getUniformLocation(prog, "u_diffuse");
gl.uniform3f(uDiffuseLoc, 1, 1, 1);

gl.enable(gl.DEPTH_TEST);

mat4.perspective(projection, Math.PI/8, 1, 5, 15);

gl.pixelStorei(gl.UNPACK_FLIP_Y_WEBGL,1);

let image = 0; // To keep track of loaded images
for (let i = 0; i < 6; i++) {
    img[i] = new Image();
    img[i].onload = function (index) {
        return function () {
            textureObjects[index] = gl.createTexture();
            gl.bindTexture(gl.TEXTURE_2D, textureObjects[index]);
            gl.texImage2D(gl.TEXTURE_2D, 0, gl.RGBA, gl.RGBA, gl.UNSIGNED_BYTE,
img[index]);
            gl.generateMipmap(gl.TEXTURE_2D);

```

```
    image++;

    if (image === 6) {
        draw();
    }
};

}(i); // Pass the current value of i to the closure

img[i].src = textureURLs[i];
}
}
```

## 2. Hasil

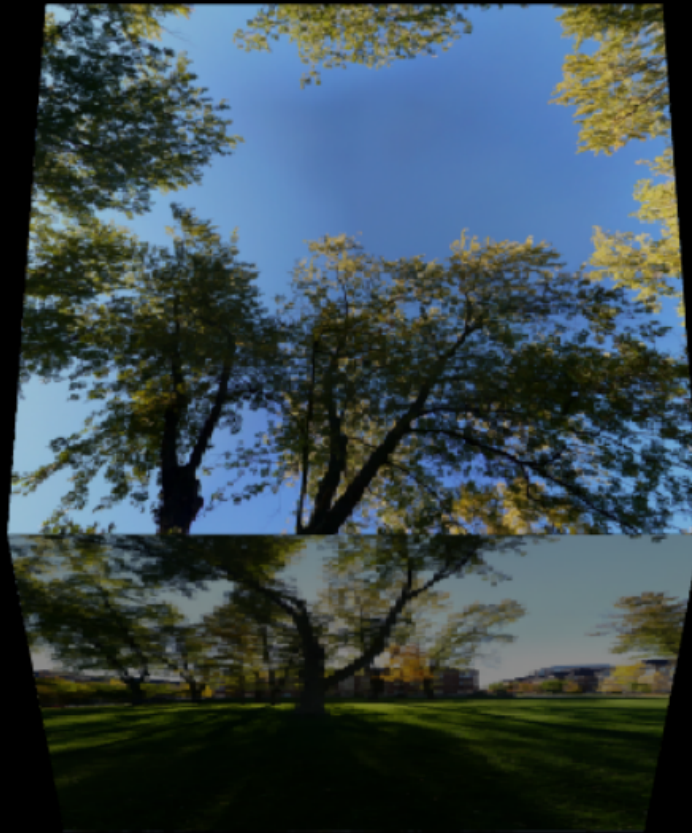
## Texture Mapping on the Sides of a Cube

Use the arrow keys, PageUp, and PageDown to rotate the object.  
Press Home and Enter or Return to go back to the default view.



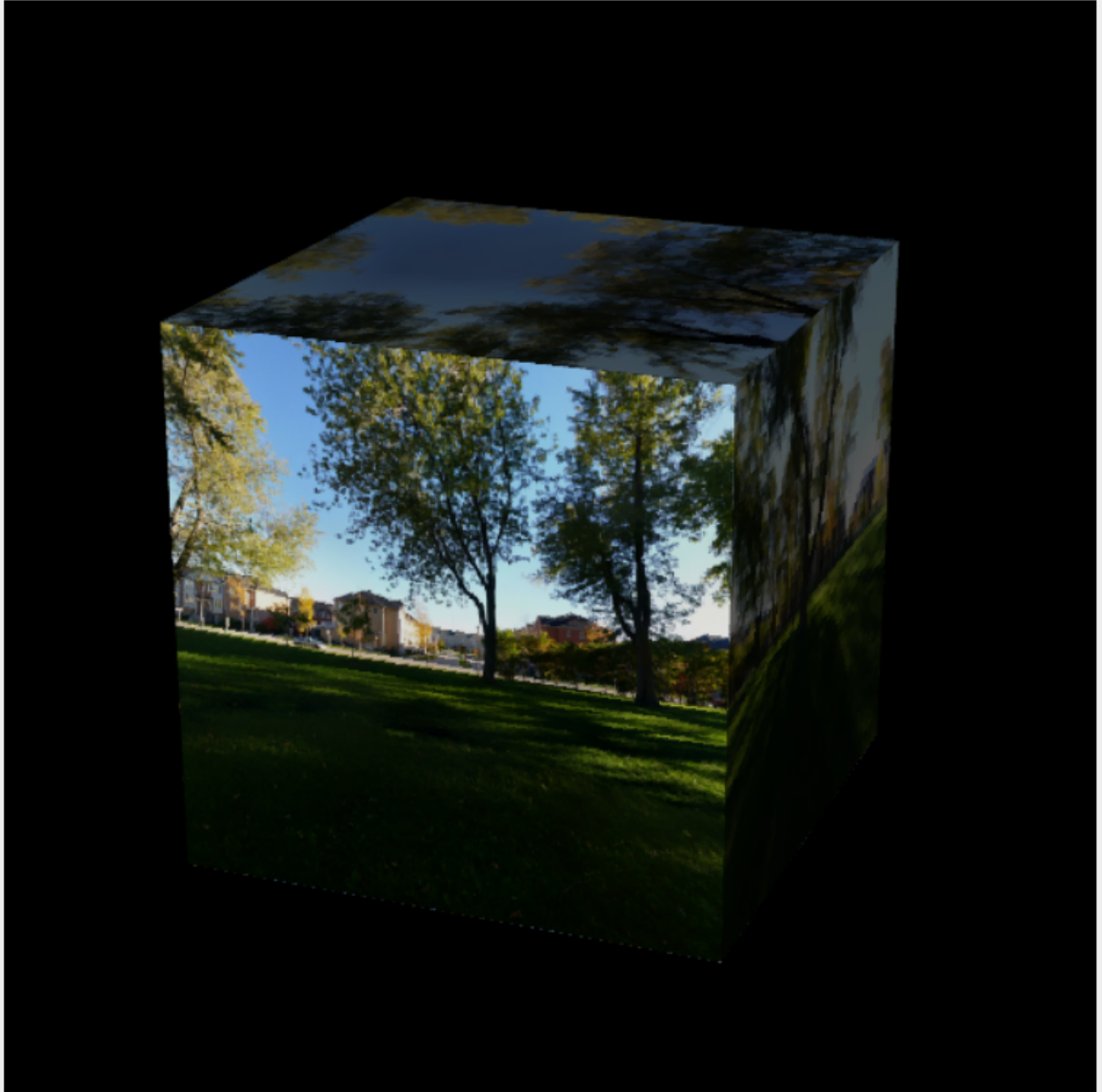
## Texture Mapping on the Sides of a Cube

Use the arrow keys, PageUp, and PageDown to rotate the object.  
Press Home and Enter or Return to go back to the default view.



## Texture Mapping on the Sides of a Cube

Use the arrow keys, PageUp, and PageDown to rotate the object.  
Press Home and Enter or Return to go back to the default view.



## Texture Mapping on the Sides of a Cube

Use the arrow keys, PageUp, and PageDown to rotate the object.  
Press Home and Enter or Return to go back to the default view.





## Texture Mapping on the Sides of a Cube

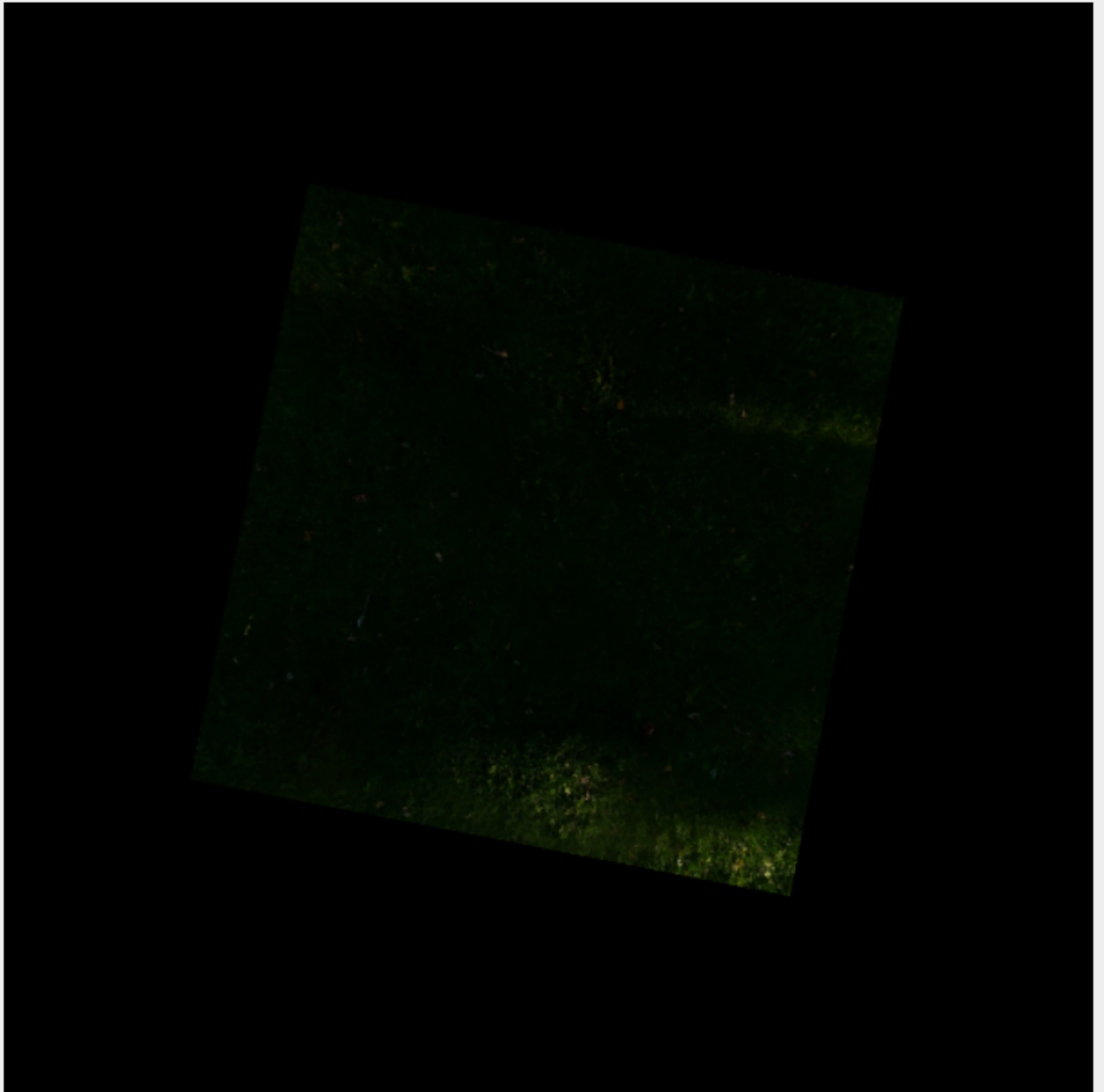
Use the arrow keys, PageUp, and PageDown to rotate the object.  
Press Home and Enter or Return to go back to the default view.





## Texture Mapping on the Sides of a Cube

Use the arrow keys, PageUp, and PageDown to rotate the object.  
Press Home and Enter or Return to go back to the default view.



3. Link github  
<https://github.com/nabilaaidah/WebGL-MappingTexture>