Advanced Graphics

Lab 10 – Writing vertex shaders **Maximum points: 10**

Due: Demo before the end of the lab. No submissions

Objective for this lab:

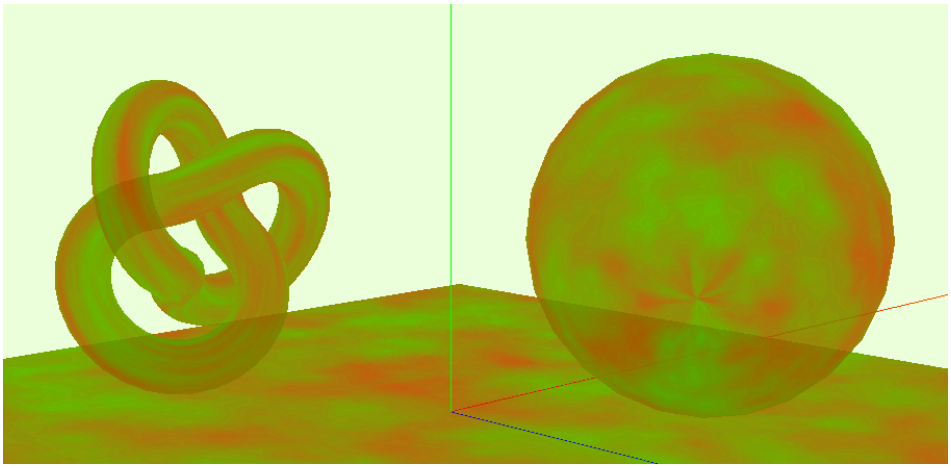
- To be able to read and understand code
- Write your own fragment shader
- You are required to do only ONE Part (see table at the end)
- Create a plane, torus and sphere with the shader applied
- Do all the assigned problems on your own.

Part A

You will write four shaders to do the following:

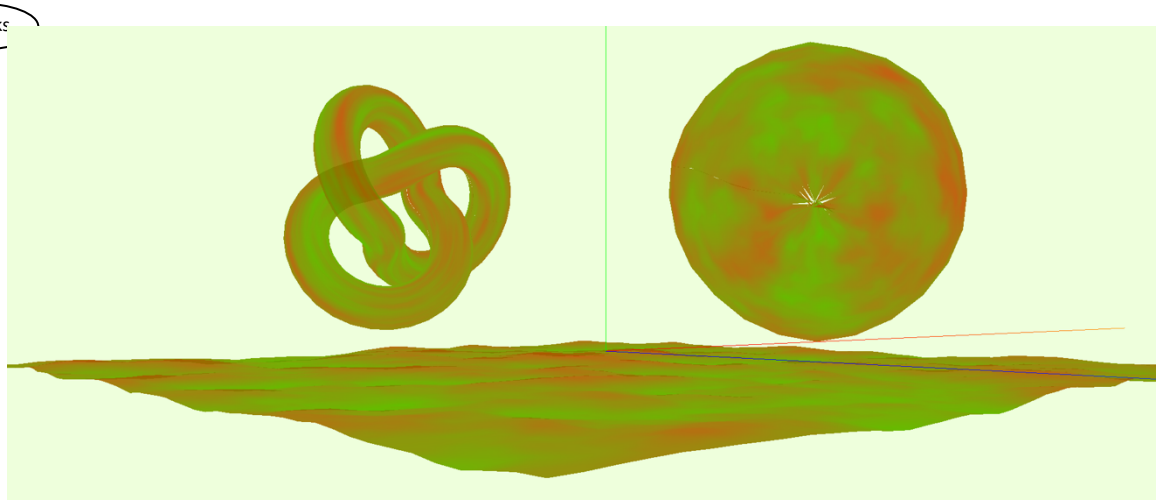
1. To produce a single blend of red to green using the texture "`noise-perlin.jpg`".

4 Marks



2. To distort the vertices in the positive direction. Use twice the red component of the texture to change the z coordinate in the vertex shader

3 Marks



3. Animate the blend pattern. Use `sin`, `time` and the `red component` in your animation in the fragment.

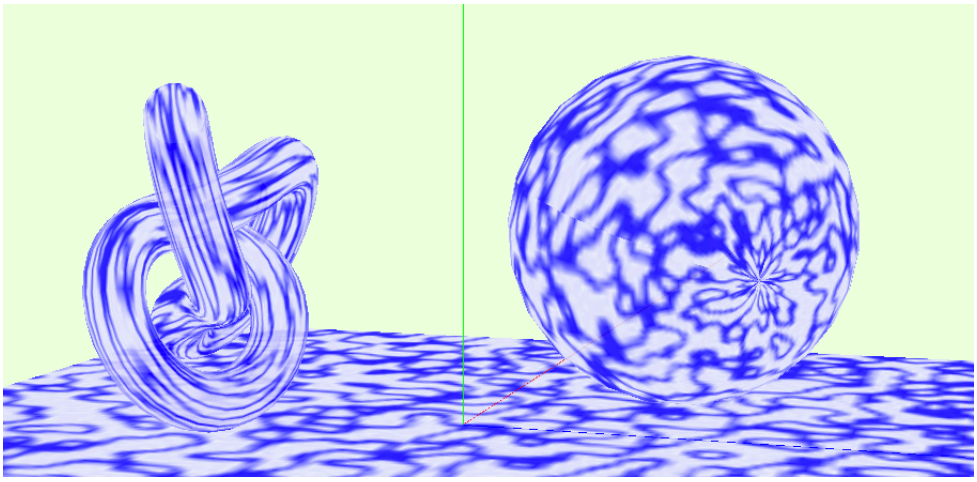
3 Marks

Part B

You will write four shaders to do the following:

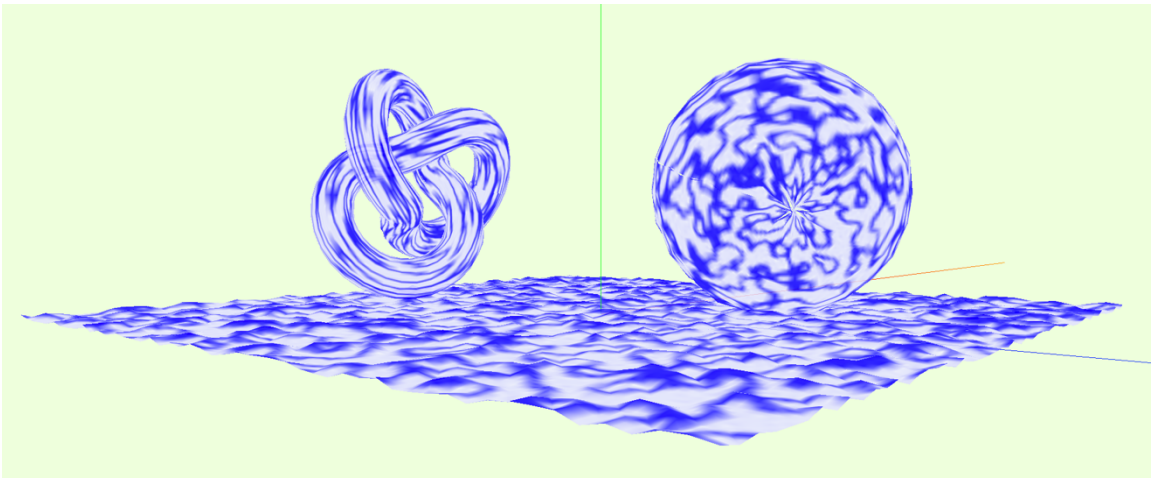
1. To produce a single blend of white to blue using the texture "`noise-vector.jpg`".

4 Marks



2. To distort the vertices in the negative direction. Use half the red component of the texture to change the z coordinate in the vertex shader

3 Marks



3. Animate the blend pattern continuously. Use `fract`, `sin`, `time` and the `red component` in your animation in the fragment

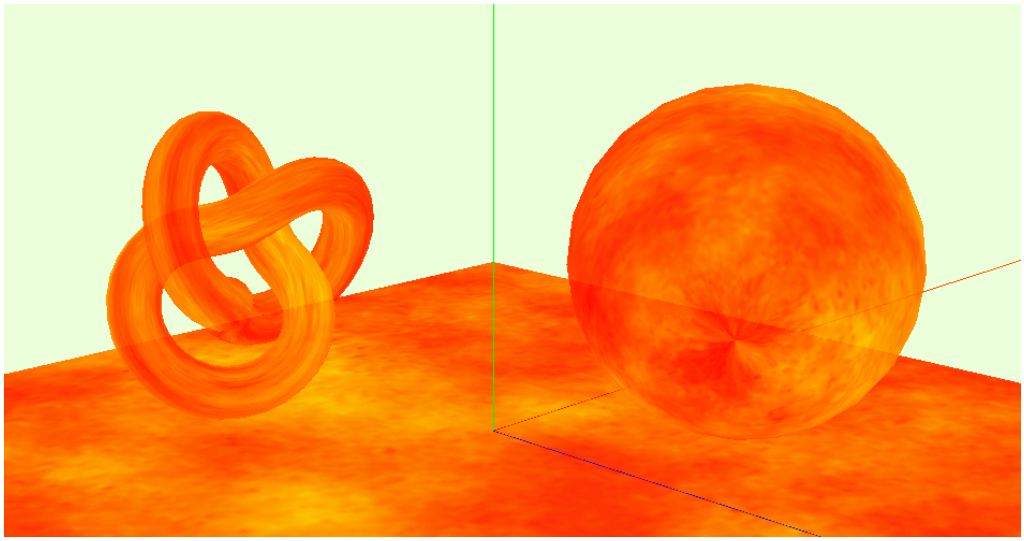
3 Marks

Part C

You will write four shaders to do the following:

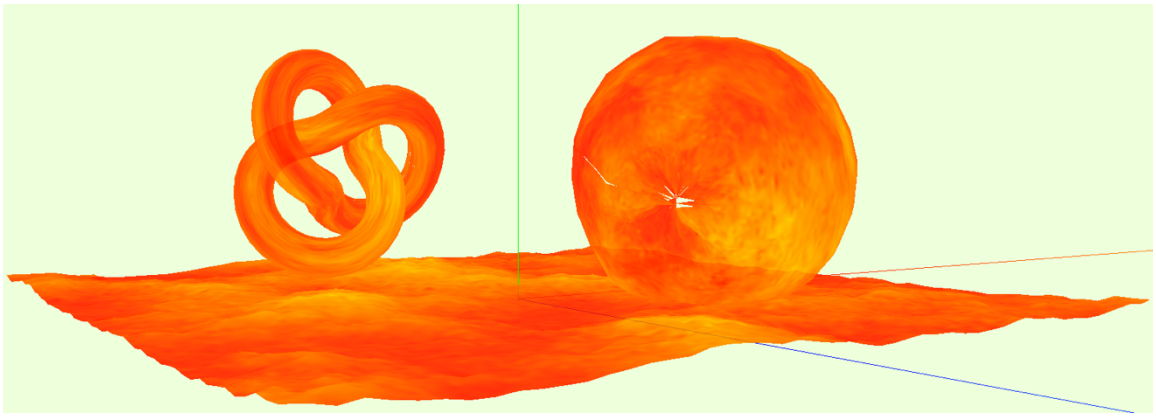
1. To produce a blend of yellow to red using the texture "`noise-black.jpg`".

4 Marks



2. To distort the vertices in the positive direction. Use 2.5 time the red component of the texture to change the z coordinate in the vertex shader

3 Marks



3. Animate blend pattern continuously. Use `abs`, `sin`, `time` and the `red component` in your animation in the fragment

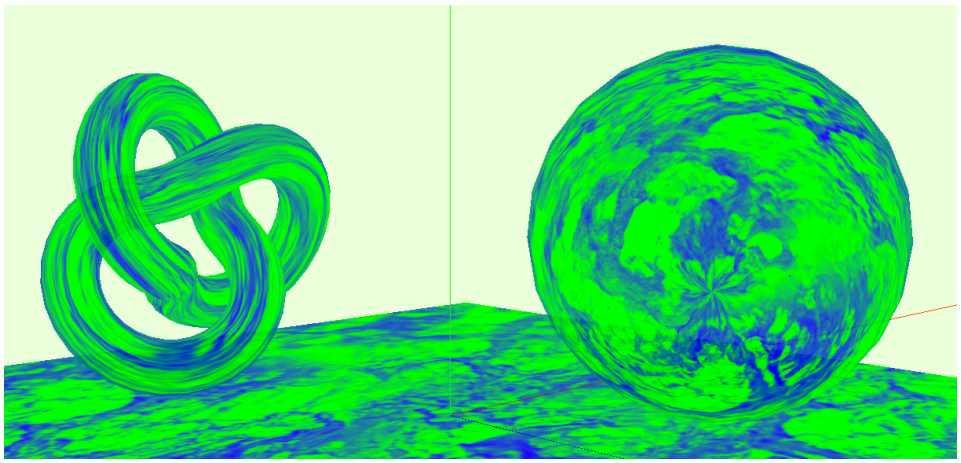
3 Marks

Part D

You will write four shaders to do the following:

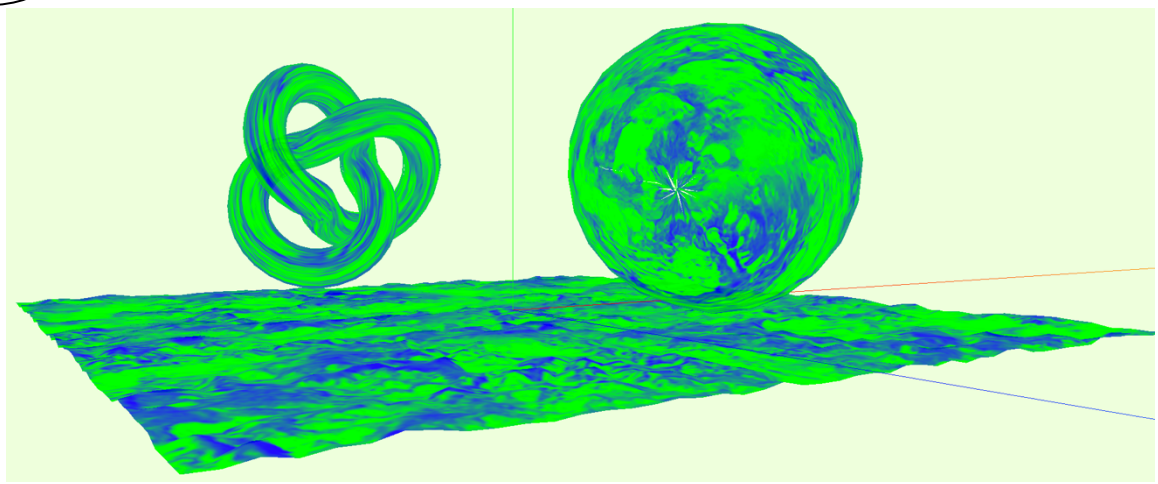
1. To produce a blend of blue to green using the texture `"lavatile.jpg"`.

4 Marks



2. To distort the vertices in the negative direction. Use `0.45` time the red component of the texture to change the z coordinate in the vertex shader

3 Marks



3. Animate blend pattern continuously. Use `abs`, `sin`, `time` and the `red component` in your animation in the fragment.

3 Marks

Student Name	
Afong, Jonathan	Part A
Alexandre, Frederico B.	Part B
Bindhray, Jobandeep S.	Part C
Cai, Zhaoning	Part D
Campbell, Kristian N.	Part A
Chavda, Purvi D.	Part B
Cheang, Heng	Part C
da Silva, Rodrigo J.	Part D
Desai, Jalpen D.	Part A
Fernandez, Aldrin B.	Part B
Gururaja, Megha	Part C
Heraldo, Winston T.	Part D
Hunte, Gabriele C.	Part A
Koczkodaj, Winston	Part B
Koo, Brandon C.	Part C
Li, James	Part D
Lindner, Morgan W.	Part A
Lovell, Jayce W.	Part B
Ly, Aron	Part C
Mohsin, Mohammed	Part D
Nahapetyan, Sargis	Part A
Ngo, Trung Kien	Part B
Panchal, Shyam Aniruddha	Part C
Patel, Abhi P.	Part D
Patel, Raj J.	Part A
Popowski, Andrzej	Part B
Punia, Rekha	Part C
Rao, Kashish	Part D
Santiago, Lance Angelo A.	Part A
Sharma, Bhaskar	Part B
Singh, Sandeep	Part C
Sodha, Pruthvisinh J.	Part D
Stokes, Daniel	Part A
Sun, Yueyang	Part B
Tang, Jia Bin	Part C
Tripathi, Gaurav	Part D
Vargas, Marvin Jupiter R.	Part A
Wright, Vincent	Part B
Yoon, Sun Mi	Part C
Zhang, Yu Yi	Part D