

```
marbel(other) {  
  
  @ for (let v of this.vertices) [fj  
  
  let c = other.center;  
  
  let r = other.r;  
  
  let p = v.copy();  
  
  p.sub(c);  
  
  let m = p.mag();  
  
  let root = sqrt(1 + (r * r) / (mx m));  
  
  p-mult( root);  
  
  p.add(c);  
  
  v.set(p);  
  

```

```
function createGroundMesh() {  
  
  // adding object: ground  
  
  const groundGeo = new THREE.BoxGeometry(2@, 20, 0.5);  
  
  const groundMat = new THREE.MeshStandardMaterial({  
  
    color: '#031D02',  
  
    side: THREE.DoubleSide,  
  
    wireframe: false  
  
    1);  
  
  const groundMesh = new THREE.Mesh(groundGeo, groundMat) ;  
  
  groundMesh.name = 'ground';  
  
  groundMesh.receiveShadow = true;  
  
  scene.add(groundMesh) ;  
  
  return groundMesh;  
  
  from langchain_openai import ChatOpenAI
```

```
from langchain_community.llms import Ollama
```

```
from langchain_core.output_parsers import StrOutputParser
```

```
from langchain_community.document_loaders import PyPDFLoader
```

```
from fpdf import FPDF
```

```
import os
```

```
from PIL import Image
```

```
import pytesseract
```

```
def generate_pdf():
```

```
    pdf = FPDF()
```

```
    pdf.add_page()
```

```
    pdf.set_font("helvetica", size = 12)
```

```
    with open('generated.txt', 'r') as file:
```

```
        for line in file:
```

```
            pdf.cell(200, 10, txt = line, ln = True, align = 'L')
```

```
    # Save the PDF with name .pdf
```

```
    pdf_output = 'generated.pdf'
```

```
    pdf.output(pdf_output)
```

```
def extract_text_from_images(folder_path):
```

```
    isExist = os.path.exists('generated.txt')
```

```
    if (isExist == True):
```

```
os.remove([' generated. txt '])
```

```
# Check if the folder exists
```

```
if not os.path.exists(folder_path) :
```

```
print(f"The folder {folder_path} does not exist.")
```

```
return
```

```
# Iterate over all files in the folder
```

```
for filename in os.listdir(folder_path):
```

```
file_path = os.path.join(folder_path, filename)
```

```
# Check if the file is an image
```

```
if filename.lower().endswith(('.png', '.jpg', '.jpeg', '.tiff', '.bmp', '.gif')):
```

```
try:
```

```
# Open the image file
```

```
with Image.open(file_path) as img:
```

```
# Use pytesseract to extract text
```

```
text = pytesseract.image_to_string(img)
```

```
text2 = text.encode('latin-1', 'replace').decode('latin-1')
```

```
print(f"Text from {filename}:")
```

```
with open('generated.txt', 'a') as file:
```

```
file.write(text2)
```

```
except Exception as e:
```

```
print(f"Failed to process image {filename}: {e}")
```

```
pdf = FPDF([])
```

```
pdf.add_page()
```

```
pdf.set_font("helvetica", size = 12)
```

```
with open('sample.txt', 'r') as file:
```

```
    for line in file:
```

```
        pdf.cell(200, 10, txt = line, ln = True, align = 'L')
```

```
# Save the PDF with name .pdf
```

```
pdf_output = 'sample.pdf'
```

```
pdf.output(pdf_output)
```