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ascii_gen.py - C:\Users\phfer\OneDrive\Desktop\exercises\pic_to_ascii\ascii_gen.py (3.11.4)
File Edit Format Run Options Window Help
1 import numpy as np
2 import os
3 from PIL import Image, ImageFont, ImageDraw
4 from collections import deque
5 import re
6 import time
7
8
9 characters = "" .:ilw@%*""
10 image_path = "equation.PNG"
11 output_file = "equation.txt"
12 image = Image.open(image_path)
13 #1
14
15 def write_text(text: str) -> None:
16     font = ImageFont.truetype('arialbd.ttf', 12) #load the font
17     size = font.getbbox(text)[-2:] #calc the size of text in pixels
18     image = Image.new('1', size, 1) #create a b/w image
19     draw = ImageDraw.Draw(image)
20     draw.text((0, 0), text, font=font) #render the text to the bitmap
21     pixels = np.array(image, dtype=np.uint8)
22     chars = np.array(['.', ':', 'l', 'w', '@', '%', '*'], dtype="U1")[pixels]
23     strings = chars.view('U' + str(chars.shape[1])).flatten()
24     print( "\n".join(strings))
25
26 def l2ascii(image: "Image", output_file: str = None,
27            characters: str = " .:ilw@%*",
28            res: int = 100) -> None:
29     n_char = len(characters)
30     w, h = image.size
31     image = image.resize((2*res, int(res*w*h))).convert("L")
32     w, h = image.size
33     l = np.asarray(image, dtype = float)
34     char_index = n_char-1-(n_char*1/(1.max()+1)).astype(np.uint16)
35     chars = np.array(list(characters), dtype="U1")[char_index]
36     strings = chars.view('U' + str(chars.shape[1])).flatten()
37     string = "\n".join(strings)
38     if output_file:
39         with open(output_file, "w") as f:
40             f.write(string)
41     return string
42
43 def animate_dir(path):
44     for p in os.listdir(path):
45         os.system("cls")

```

equation.txt - Notepad

$$\frac{\partial^2 c_{ijk}}{\partial z^2} \approx \text{Div}_{ij} \text{Grad}_{z_{ij}} c_{ijk} + \text{Div}_{ij}$$

Ln 57, Col 261 20% Windows (CRLF) UTF-8

