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import sys
from PIL import Image

# 1. DEFINE THE ASCII CHARACTERS
# This string goes from darkest to lightest.
# You can swap the order if your terminal background is white.
ASCII_CHARS = ["@", "#", "S", "%", "?", "*", "+", ";", ":", ",", "."]

def resize_image(image, new_width=100):
    """
    Resizes the image to a new width while maintaining aspect ratio.
    """
    width, height = image.size
    ratio = height / width
    # 0.55 is used to correct the aspect ratio because terminal characters
    # are usually taller than they are wide.
    new_height = int(new_width * ratio * 0.55)
    resized_image = image.resize((new_width, new_height))
    return resized_image

def grayify(image):
    """
    Converts the image to grayscale using the 'L' mode.
    """
    return image.convert("L")

def pixels_to_ascii(image):
    """
    Maps each pixel to an ascii character based on its intensity.
    """
    pixels = image.getdata()
    characters = ""

    # LOOP 1: Iterate through every pixel in the image data
    for pixel in pixels:
        # CONDITIONAL/LOGIC: Map pixel brightness (0-255) to our list of chars (0-10)
        # We divide by 25 to scale 0-255 down to 0-10 index.
        characters += ASCII_CHARS[pixel // 25]

    return characters

def main(image_path):
    try:
        # Open the image file
        image = Image.open(image_path)
    except Exception as e:
        print(e)
        return

    # Process the image function by function
    new_image_data = pixels_to_ascii(grayify(resize_image(image)))

    # Format the string into lines to form the image
    pixel_count = len(new_image_data)
    ascii_image = "\n".join([new_image_data[index:(index+100)] for index in range(0, pixel_count, 100)])

    # Print the result
    print(ascii_image)

    # Save the result to a text file
    with open("ascii_art.txt", "w") as f:
        f.write(ascii_image)

# Run the program
# Make sure your image file is named 'mbs.webp' or update the name below
if __name__ == "__main__":
    main("mbs.webp")

```

