Element 1 of AIM
This project is for learning purposes.

Student information
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Unit name: 23/24 Artificial Intelligence for Media

Dataset information
Dataset was originally from https://zenodo.org/records/2613548

DCGAN information
This model comes from the content of the week 5 session [https://git.arts.ac.uk/tbroad/AI-4-Media-23-24/blob/main/Week-5-GANs/01-gan-training.ipynb], and is actually heavily modified from the code on the Internet [https://pytorch.org/tutorials/beginner/dcgan_faces_tutorial.html].

Project brief
In this unit, I learned how to use and train the DCGAN model. Due to time limitations, the output of the model was not very perfect. However, the imperfect output has been anticipated before starting the project, so the output is to warn the audience: if you do not pay attention to the floor plan, when an emergency occurs, you will not know where to evacuate. In this way, the audience pays more attention to emergency escape.

Folder information
```
AI4M-miniproject
    cubicasa5k
        Dataset_original_Readme.txt
    data_folder
        train_images
            tain_images_Readme.txt
        train_images_bmp
            BMP_Readme.txt
    output
        LR_G=2LR_D
            (pt11)
                loss chart.png
                output.png
                RF.png
            epochs=30(pt12)
                loss chart.png
```

```
            output.png
            RF.png
        epochs=40(pt13)
            loss chart.png
            output.png
            RF.png
        epochs=80(pt14)
            loss chart.png
            output.png
            RF.png
        epochs=100(pt15)
            loss chart.png
            output.png
            RF.png
        epochs=140(pt16)
            loss chart.png
            output.png
            RF.png
    LR=0.0001
        epochs=10(pt1)
            Loss Chart.png
            output.png
            Real Image.png
            RF.png
        epochs=20(pt2)
            Loss Chart.png
            output.png
            Real Image.png
            RF.png
        epochs=30(pt3)
            Loss Chart.png
            output.png
            RF.png
        epochs=40(pt4)
            loss chart.png
            output.png
            RF.png
        epochs=60(pt5)
            loss chart.png
            output.png
            RF.png
        epochs=80(pt6)
            loss chart.png
            output.png
```

```
            RF.png
        epochs=100(pt8)
            loss chart.png
            output.png
            RF.png
        epochs=100(pt7)
            loss chart.png
            output.png
            RF.png
week-5-GANs
    src
        __pycache__
            Dorothy.cpython-39.pyc
            gan_model.cpython-39.pyc
            gan_model.cpython-311.pyc
            util.cpython-39.pyc
            util.cpython-311.pyc
        Dorothy.py
        gan_model-with-comments.py
        gan_model.py
        util.py
    01-gan-training.ipynb
    02-gan-generation.ipynb
    gan_weights.pt
    gan_weights1.pt
    gan_weights2.pt
    gan_weights4.pt
    gan_weights5.pt
    gan_weights6.pt
    gan_weights7.pt
    gan_weights8.pt
    gan_weights11.pt
    gan_weights12.pt
    gan_weights13.pt
    gan_weights14.pt
    gan_weights15.pt
    gan_weights16.pt
BMP.py
name-discriminator.py
name-discriminator2.py
test-name-discriminator.py
test.ipynb
```