**Code Operation Guide**

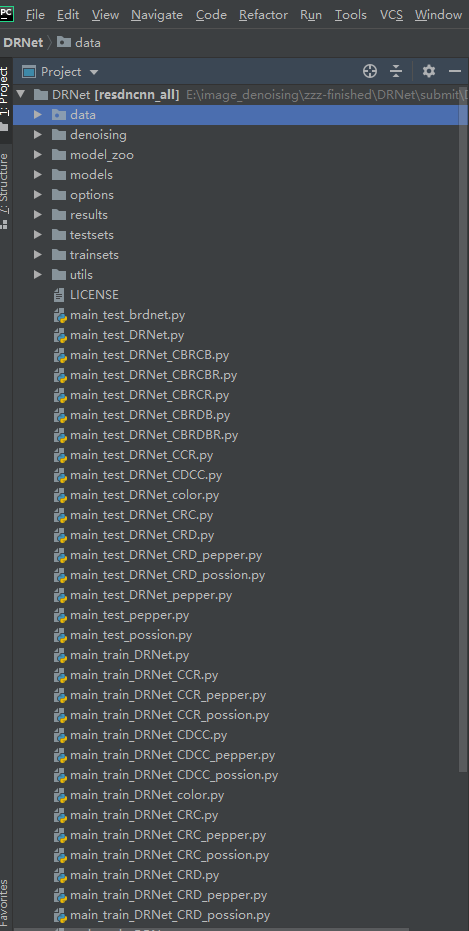
1. **Running environment**

In the root of the code, running “pip install -r requirements.txt” will install the environment. Python version is 3.7.

Code directory of reading data sets

1. **Overall**

Checkpoint of training



Train and test files

Tool files

Datasets

The results of the tests

Configuration files

Model file based on pytorch

Pre-trained model

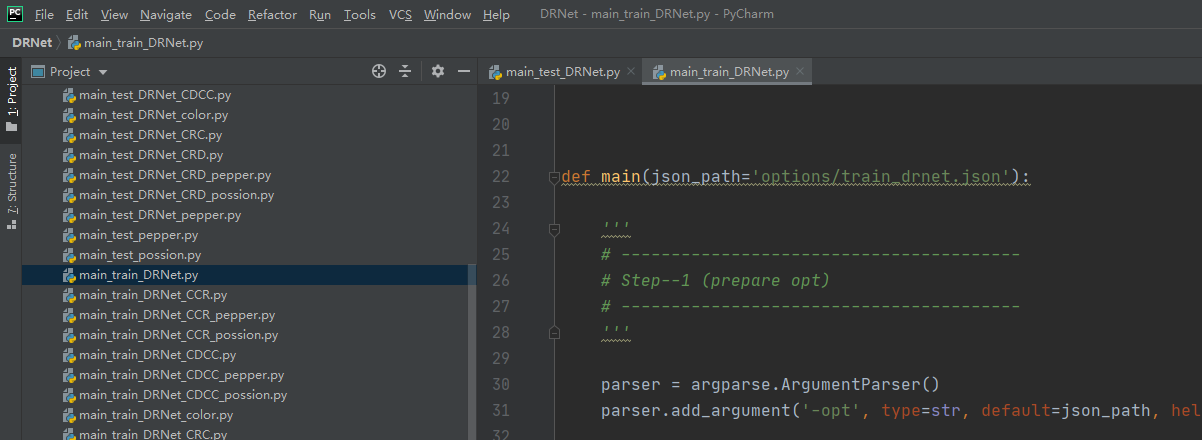
1. **Training**

We use DRNet as an example of training and testing, and others are similar.

The configuration file is in the “options” directory

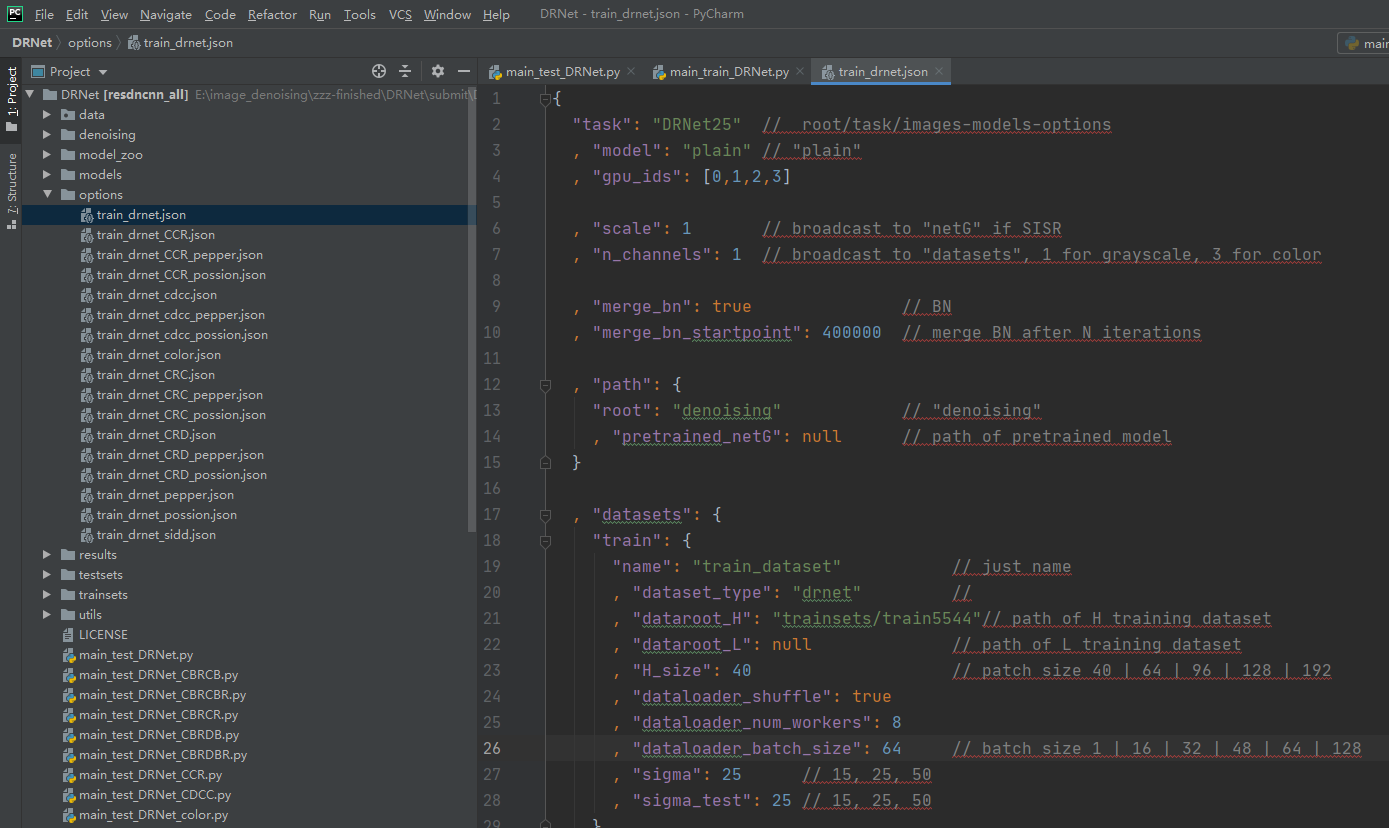
**3.1 Gaussian noise**

The dateset can be obtained by referring to the the paper or “Readme.md” file.



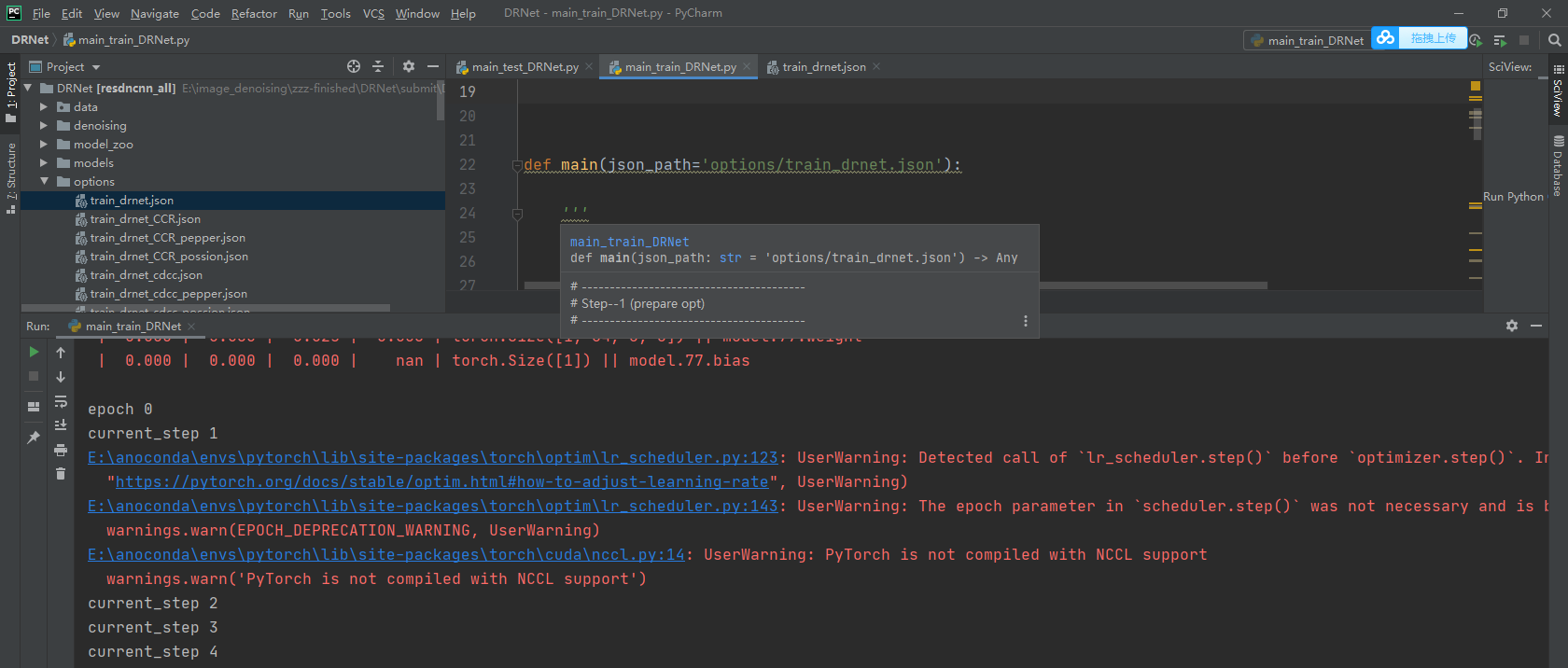
For color images

For gray images



The parameters are accompanied by notes

Running :



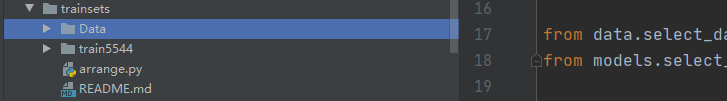
**3.2 Possion noise and salt & pepper noise**

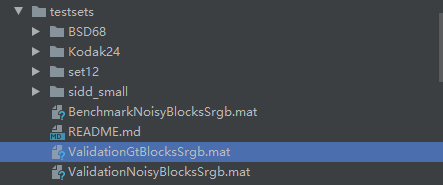


It needs to be clarified that in this paper we do Poisson and salt and pepper noise tests on four better resblocks. So these noises are not tested on DRNet\_CBRCB, etc.

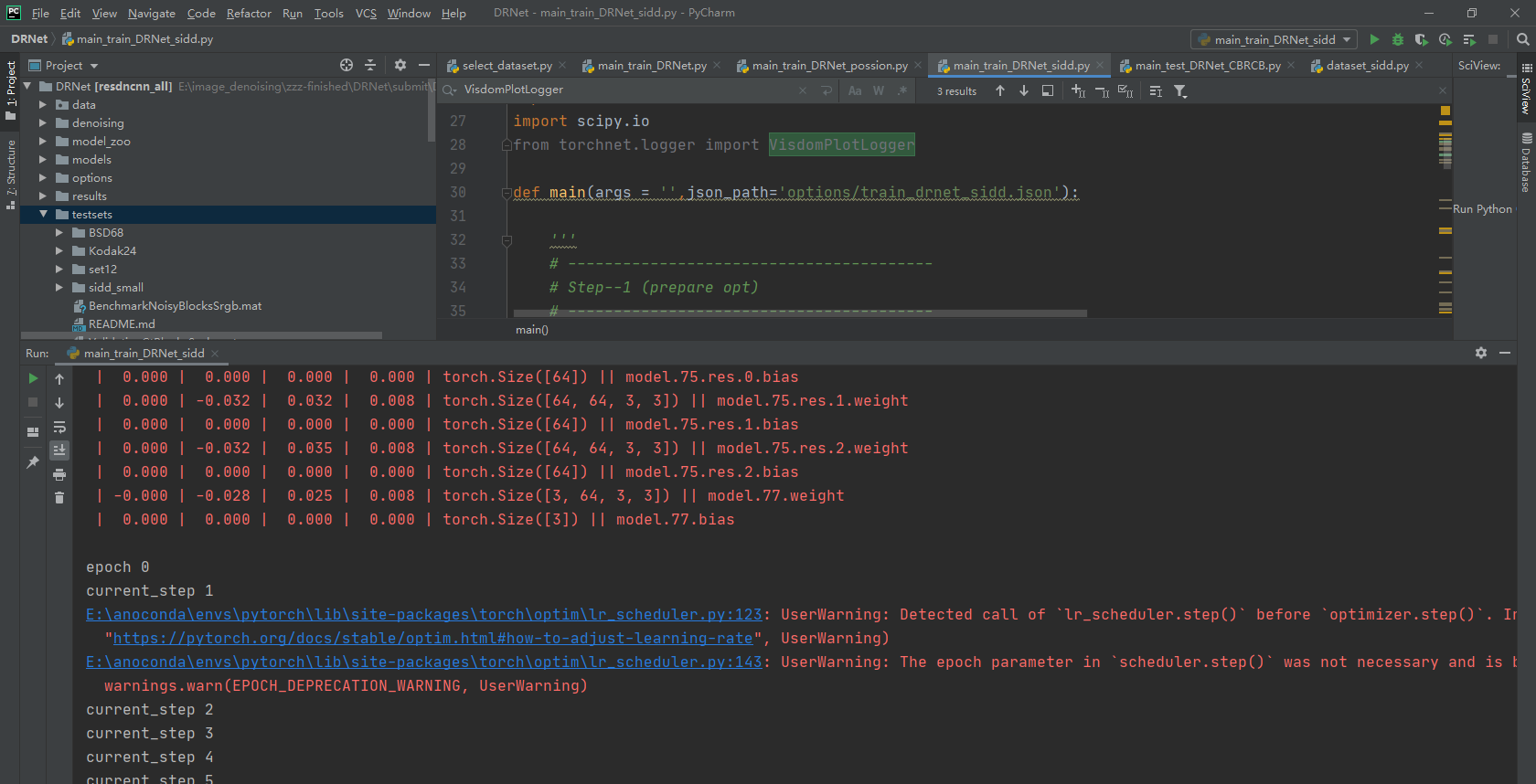
**3.3 Real noise**

For real noise dataset, we use sRGB images from SIDD(http://130.63.97.225/sidd/dataset.php). Please download the dataset and put the “Data” directory in “trainsets”. Besides, the validation data should be put in testsets





Running:

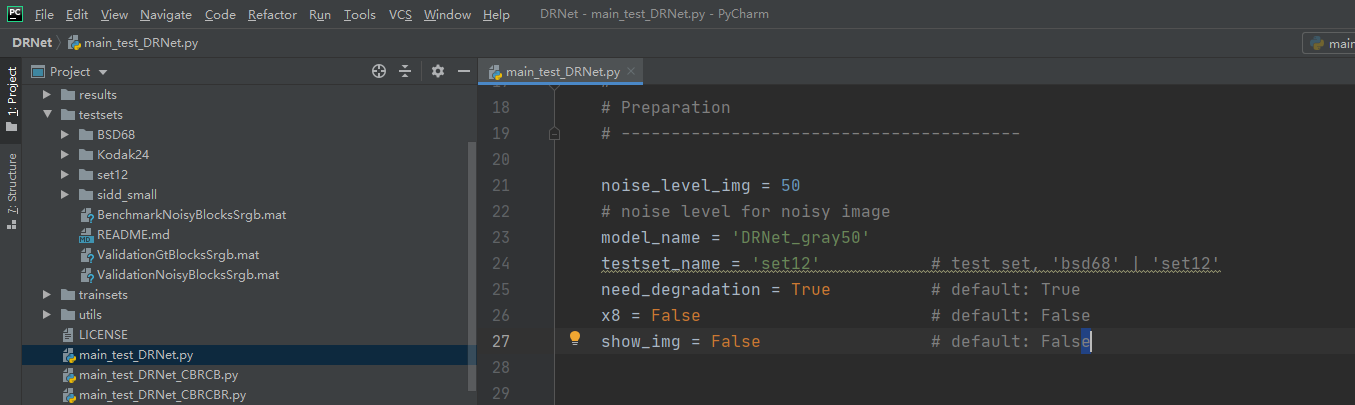


1. **Test**

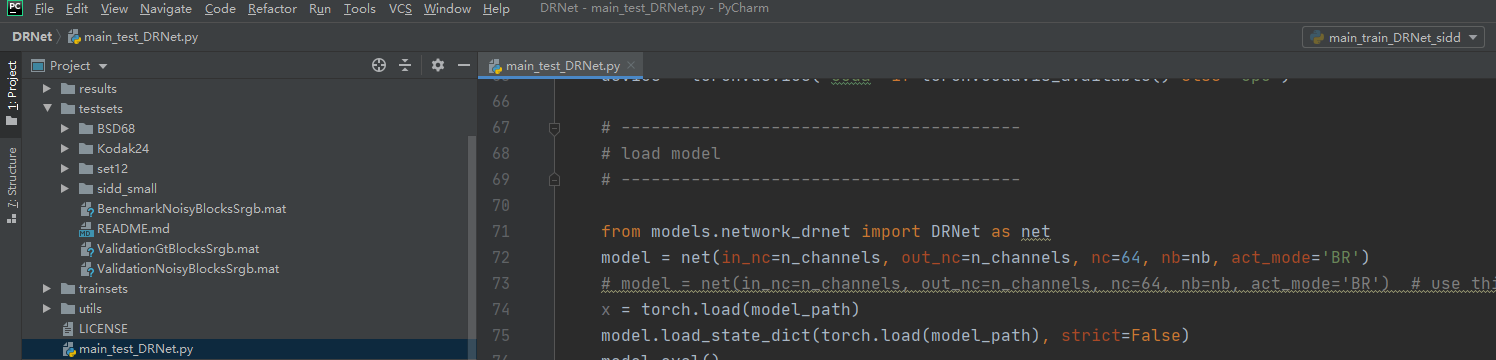
**We provide test code and pre-trained model in the code.**

Change the noise level here, 15, 25, 50

**4.1 Gaussian noise**

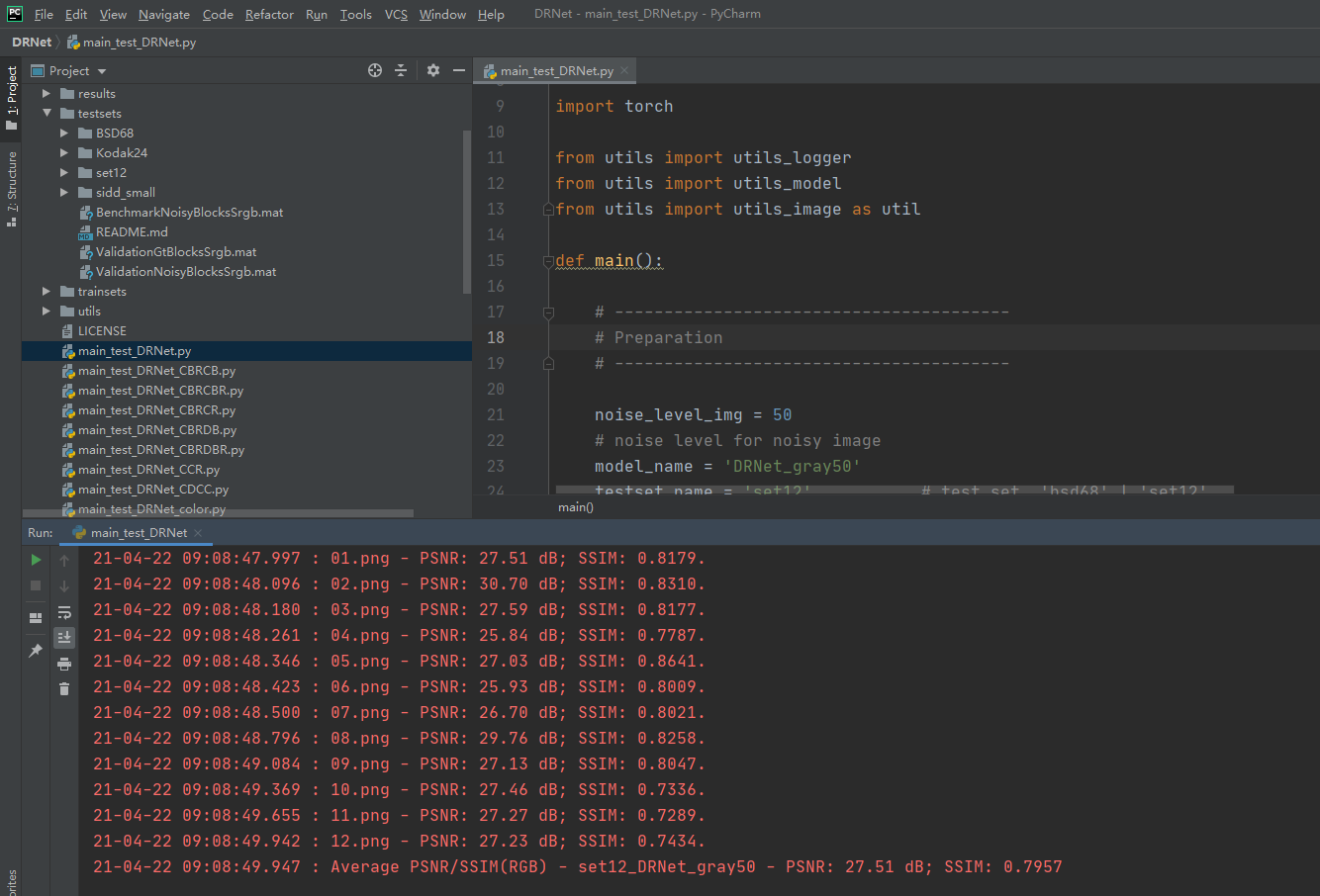


Testset



Changing the test model or you can run the corresponding test file directly

Running:

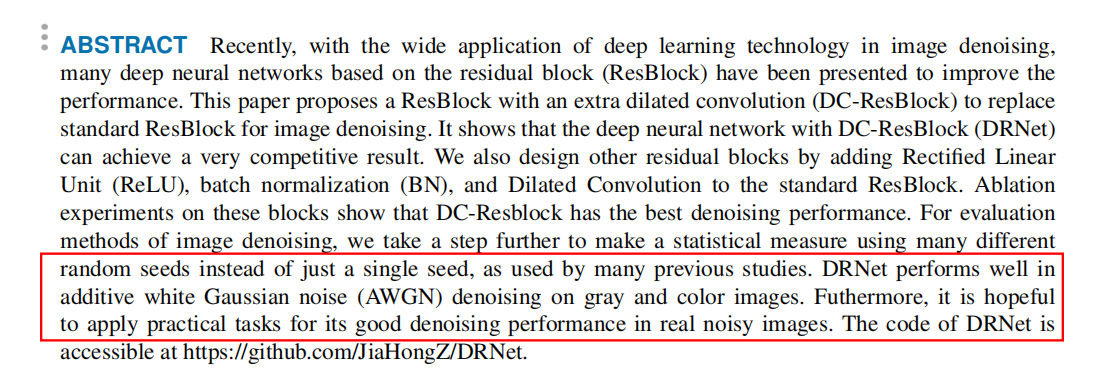


The output images:



4.2 **Possion noise and salt & pepper noise**

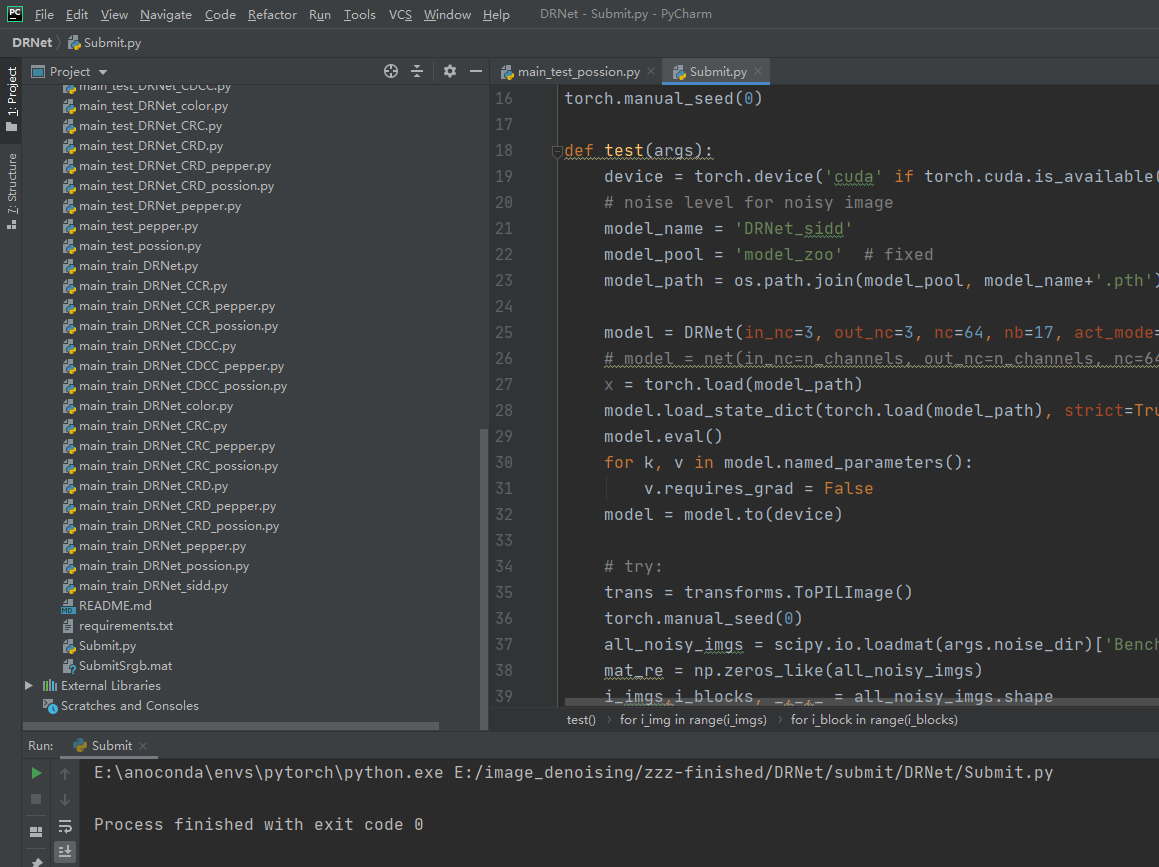
The experiments of possion noise and salt & pepper noise are used as a contrast in ablation experiments. So we didn't compare DRNet with other networks dealing with this kind of noise specially.





**4.3 Real noise**

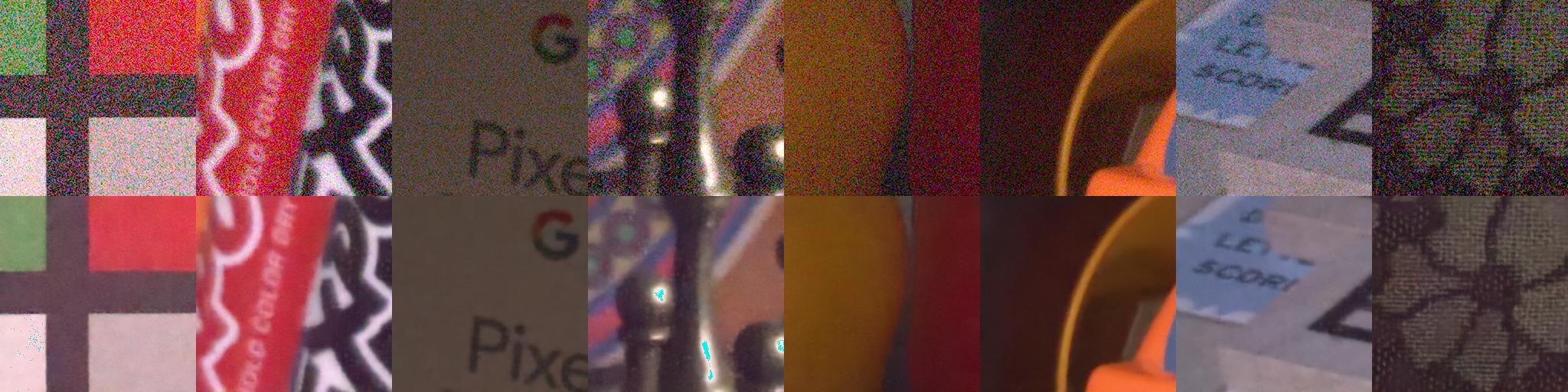
We use the official test method provided by SIDD data set for real noise testing. Run the “Submit.py” to generate a file named “SubmitSrgb.mat”, then submit it to http://130.63.97.225/sidd/benchmark\_submit.php



The results obtained by the mailbox are as follows:

PSNR\_Srgb,SSIM\_Srgb,TimeSrgb(s)

36.33,0.931,-1



If you want to test other real noise images, you can modify the main\_test\_DRNet.py.