Random Excursion Test

This program implements Random Excursion Test that is described in NIST document at subsection 2.14.

Required libraries: *numpy, scipy.special, scipy.stats, argparse, pickle, pandas, glob*

1. INPUT

This program takes three parameters – non of them is required and has default values:

- *input-file (default: 'generated_numbers.pkl')* – path/name of pickle file that we are testing; if *input-dir* is not default it is ignored
- *input-dir (default: '')* - path/name of directiory with pickle files that we are testing
- *pval-file (default: 'p-values.csv')* – path/name of file where program returns counted p-values

2. OUTPUT

Every file returns eight p-values.
If *input-file* is not ignored program saves all counted p-values in *pval-file* (one in the row) and also prints list of results on the screen.
If *input-dir* is entered all counted p-values are saved in *pval-file* (one in the row). *pval-file* has 8n (n – number of files in directory) rows.

3. EXAMPLES

tests file named *'numbers.pkl'* – if exists:

```
python z4_rexcursion_test.py --input-file numbers.pkl
```

tests all files in directory named *res* – if exists, results saves in *p.csv* file:

```
python z4_rexcursion_test.py --input-dir res --pval-file
p.csv
```