STT_LAB 5

TERMINAL COMMANDS

```
set-iitgn-vm@set-iitgn-vm:~$ python --version
Python 3.8.10
set-iitgn-vm@set-iitgn-vm:~$ python3.10 --version
Python 3.10.11
set-iitgn-vm@set-iitgn-vm:~$ python3 --version
Python 3.10.11
set-iitgn-vm@set-iitgn-vm:~$ python3.10 -m venv STT-lab5-env
set-iitgn-vm@set-iitgn-vm:~$ source STT-lab5-env/bin/activate
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~$ pip install pynguin pytest pytest-cov coverage
Collecting pynguin
  Downloading pynguin-0.40.0-py3-none-any.whl (306 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
306.8/306.8 kB 3.6 MB/s eta 0:00:00
Collecting pytest
  Downloading pytest-8.3.4-py3-none-any.whl (343 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
343.1/343.1 kB 10.2 MB/s eta 0:00:00
Collecting pytest-cov
  Downloading pytest_cov-6.0.0-py3-none-any.whl (22 kB)
Collecting coverage
  Downloading
coverage-7.6.10-cp310-cp310-manylinux_2_5_x86_64.manylinux1_x86_64.manylinux_2_17_x
86_64.manylinux2014_x86_64.whl (235 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
235.9/235.9 kB 20.6 MB/s eta 0:00:00
Collecting Jinja2<4.0.0,>=3.1.4
  Downloading jinja2-3.1.5-py3-none-any.whl (134 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
134.6/134.6 kB 35.9 MB/s eta 0:00:00
Collecting typing_inspect<0.10.0,>=0.9.0
  Downloading typing_inspect-0.9.0-py3-none-any.whl (8.8 kB)
Collecting simple-parsing<0.2.0,>=0.1.6
  Downloading simple_parsing-0.1.7-py3-none-any.whl (112 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
112.8/112.8 kB 6.0 MB/s eta 0:00:00
Collecting networkx<4.0,>=3.4
  Downloading networkx-3.4.2-py3-none-any.whl (1.7 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
1.7/1.7 MB 8.9 MB/s eta 0:00:00
Collecting rich<14.0.0,>=13.9.4
```

```
  Downloading rich-13.9.4-py3-none-any.whl (242 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
242.4/242.4 kB 13.4 MB/s eta 0:00:00
Collecting bytecode<0.17.0,>=0.16.0
  Downloading bytecode-0.16.1-py3-none-any.whl (41 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
41.9/41.9 kB 8.3 MB/s eta 0:00:00
Collecting black<25.0.0,>=24.10.0
  Downloading
black-24.10.0-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.manylinux_2_28_
x86_64.whl (1.8 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
1.8/1.8 MB 8.9 MB/s eta 0:00:00
Collecting astroid<4.0.0,>=3.3.5
  Downloading astroid-3.3.8-py3-none-any.whl (275 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
275.2/275.2 kB 8.8 MB/s eta 0:00:00
Collecting asciitree<0.4.0,>=0.3.3
  Using cached asciitree-0.3.3-py3-none-any.whl
Collecting libcst<2.0.0,>=1.5.1
  Downloading libcst-1.6.0-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl
(2.3 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
2.3/2.3 MB 8.8 MB/s eta 0:00:00
Collecting Pygments<3.0.0,>=2.18.0
  Downloading pygments-2.19.1-py3-none-any.whl (1.2 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
1.2/1.2 MB 9.2 MB/s eta 0:00:00
Collecting jellyfish<2.0.0,>=1.1.0
  Downloading
jellyfish-1.1.3-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (347 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
347.4/347.4 kB 9.8 MB/s eta 0:00:00
Collecting exceptiongroup>=1.0.0rc8
  Downloading exceptiongroup-1.2.2-py3-none-any.whl (16 kB)
Collecting iniconfig
  Downloading iniconfig-2.0.0-py3-none-any.whl (5.9 kB)
Collecting pluggy<2,>=1.5
  Downloading pluggy-1.5.0-py3-none-any.whl (20 kB)
Collecting packaging
  Downloading packaging-24.2-py3-none-any.whl (65 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
65.5/65.5 kB 17.8 MB/s eta 0:00:00
Collecting tomli>=1
```

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  Downloading tomli-2.2.1-py3-none-any.whl (14 kB)
Collecting typing-extensions>=4.0.0
  Downloading typing_extensions-4.12.2-py3-none-any.whl (37 kB)
Collecting mypy-extensions>=0.4.3
  Downloading mypy_extensions-1.0.0-py3-none-any.whl (4.7 kB)
Collecting platformdirs>=2
  Downloading platformdirs-4.3.6-py3-none-any.whl (18 kB)
Collecting click>=8.0.0
  Downloading click-8.1.8-py3-none-any.whl (98 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
98.2/98.2 kB 23.1 MB/s eta 0:00:00
Collecting pathspec>=0.9.0
  Downloading pathspec-0.12.1-py3-none-any.whl (31 kB)
Collecting MarkupSafe>=2.0
  Downloading
MarkupSafe-3.0.2-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (20 kB)
Collecting pyyaml>=5.2
  Downloading
PyYAML-6.0.2-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (751 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
751.2/751.2 kB 9.4 MB/s eta 0:00:00
Collecting markdown-it-py>=2.2.0
  Downloading markdown_it_py-3.0.0-py3-none-any.whl (87 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
87.5/87.5 kB 27.3 MB/s eta 0:00:00
Collecting docstring-parser<1.0,>=0.15
  Downloading docstring_parser-0.16-py3-none-any.whl (36 kB)
Collecting mdurl~=0.1
  Downloading mdurl-0.1.2-py3-none-any.whl (10.0 kB)
Installing collected packages: asciitree, typing-extensions, tomli, pyyaml, Pygments, pluggy,
platformdirs, pathspec, packaging, networkx, mypy-extensions, mdurl, MarkupSafe, jellyfish,
iniconfig, exceptiongroup, docstring-parser, coverage, click, bytecode, typing_inspect,
simple-parsing, pytest, markdown-it-py, libcst, Jinja2, black, astroid, rich, pytest-cov, pynguin
Successfully installed Jinja2-3.1.5 MarkupSafe-3.0.2 Pygments-2.19.1 asciitree-0.3.3
astroid-3.3.8 black-24.10.0 bytecode-0.16.1 click-8.1.8 coverage-7.6.10 docstring-parser-0.16
exceptiongroup-1.2.2 iniconfig-2.0.0 jellyfish-1.1.3 libcst-1.6.0 markdown-it-py-3.0.0 mdurl-0.1.2
mypy-extensions-1.0.0 networkx-3.4.2 packaging-24.2 pathspec-0.12.1 platformdirs-4.3.6
pluggy-1.5.0 pynguin-0.40.0 pytest-8.3.4 pytest-cov-6.0.0 pyyaml-6.0.2 rich-13.9.4
simple-parsing-0.1.7 tomli-2.2.1 typing-extensions-4.12.2 typing_inspect-0.9.0

[notice] A new release of pip is available: 23.0.1 -> 25.0
[notice] To update, run: pip install --upgrade pip
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~$ pip install pytest-func-cov
Collecting pytest-func-cov
```

```
  Downloading pytest_func_cov-0.2.3-py3-none-any.whl (8.4 kB)
Requirement already satisfied: pytest>=5 in ./STT-lab5-env/lib/python3.10/site-packages (from
pytest-func-cov) (8.3.4)
Requirement already satisfied: exceptiongroup>=1.0.0rc8 in
./STT-lab5-env/lib/python3.10/site-packages (from pytest>=5->pytest-func-cov) (1.2.2)
Requirement already satisfied: pluggy<2,>=1.5 in ./STT-lab5-env/lib/python3.10/site-packages
(from pytest>=5->pytest-func-cov) (1.5.0)
Requirement already satisfied: tomli>=1 in ./STT-lab5-env/lib/python3.10/site-packages (from
pytest>=5->pytest-func-cov) (2.2.1)
Requirement already satisfied: packaging in ./STT-lab5-env/lib/python3.10/site-packages (from
pytest>=5->pytest-func-cov) (24.2)
Requirement already satisfied: iniconfig in ./STT-lab5-env/lib/python3.10/site-packages (from
pytest>=5->pytest-func-cov) (2.0.0)
Installing collected packages: pytest-func-cov
Successfully installed pytest-func-cov-0.2.3

[notice] A new release of pip is available: 23.0.1 -> 25.0
[notice] To update, run: pip install --upgrade pip
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~$ git clone https://github.com/keon/algorithms
Cloning into 'algorithms'...
remote: Enumerating objects: 5188, done.
remote: Counting objects: 100% (34/34), done.
remote: Compressing objects: 100% (20/20), done.
remote: Total 5188 (delta 23), reused 14 (delta 14), pack-reused 5154 (from 2)
Receiving objects: 100% (5188/5188), 1.44 MiB | 15.33 MiB/s, done.
Resolving deltas: 100% (3239/3239), done.
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~$ ls
algorithms  Downloads  lib64      Pictures  snap          Templates
Desktop     include    Music      playground  software    Videos
Documents   lib        nltk_data  Public      STT-lab5-env
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~$ cd algorithms/
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ ls
algorithms          docs          README.md          test_requirements.txt
CODE_OF_CONDUCT.md  LICENSE       requirements.txt   tests
CONTRIBUTING.md     MANIFEST.in   setup.py           tox.ini
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ sudo snap install --classic code
\[sudo] password for set-iitgn-vm:
Sorry, try again.
[sudo] password for set-iitgn-vm:
code cd4ee3b1 from Visual Studio Code (vscode**) installed
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ git rev-parse HEAD
cad4754bc71742c2d6fcbd3b92ae74834d359844
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ code .
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ history
```

```
    1  python --version
    2  python3.10 --version
    3  python3 --version
    4  python3.10 -m venv STT-lab5-env
    5  source STT-lab5-env/bin/activate
    6  pip install pynguin pytest pytest-cov coverage
    7  pip install pytest-func-cov
    8  git clone https://github.com/keon/algorithms
    9  ls
   10  cd algorithms/
   11  ls
   12  sudo snap install --classic code
   13  git rev-parse HEAD
   14  code .
   15  history
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$
```

TERMINAL COMMANDS ON VS CODE

```
============================================================
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms/algorithms$ cd  ..
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest
============================================================================
======== test session starts
============================================================================
========
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, func-cov-0.2.3
collected 0 items / 29 errors

============================================================================
============== ERRORS
============================================================================
===============

_____________________________________________________________________________
ERROR collecting tests/test_array.py
_____________________________________________________________________________
../STT-lab5-env/lib/python3.10/site-packages/_pytest/python.py:493: in importtestmodule
    mod = import_path(
../STT-lab5-env/lib/python3.10/site-packages/_pytest/pathlib.py:587: in import_path
    importlib.import_module(module_name)
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
<frozen importlib._bootstrap>:1050: in _gcd_import
    ???
```

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<frozen importlib._bootstrap>:1027: in _find_and_load
   ???
<frozen importlib._bootstrap>:1006: in _find_and_load_unlocked
   ???
<frozen importlib._bootstrap>:688: in _load_unlocked
   ???
../STT-lab5-env/lib/python3.10/site-packages/_pytest/assertion/rewrite.py:175: in exec_module
   source_stat, co = _rewrite_test(fn, self.config)
../STT-lab5-env/lib/python3.10/site-packages/_pytest/assertion/rewrite.py:355: in _rewrite_test
   tree = ast.parse(source, filename=strfn)
/usr/local/lib/python3.10/ast.py:50: in parse
   return compile(source, filename, mode, flags,
E     File "/home/set-iitgn-vm/algorithms/tests/test_array.py", line 13
E       rotate_v1, rotate_v2, rotate_v3,
E       ^^^^^^^^^
E   SyntaxError: invalid syntax
_____ ERROR collecting tests/test_automata.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_automata.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
   return _bootstrap._gcd_import(name[level:], package, level)
tests/test_automata.py:1: in <module>
   from algorithms.automata import DFA
E   ModuleNotFoundError: No module named 'algorithms'
_____ ERROR collecting tests/test_backtrack.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_backtrack.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
   return _bootstrap._gcd_import(name[level:], package, level)
tests/test_backtrack.py:1: in <module>
   from algorithms.backtrack import (
E   ModuleNotFoundError: No module named 'algorithms'
_____ ERROR collecting tests/test_bfs.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_bfs.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
```

```
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_bfs.py:1: in <module>
    from algorithms.bfs import (
E   ModuleNotFoundError: No module named 'algorithms'
_____ ERROR collecting tests/test_bit.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_bit.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_bit.py:1: in <module>
    from algorithms.bit import (
E   ModuleNotFoundError: No module named 'algorithms'
_____ ERROR collecting tests/test_compression.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_compression.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_compression.py:1: in <module>
    from algorithms.compression.huffman_coding import HuffmanCoding
E   ModuleNotFoundError: No module named 'algorithms'
_____ ERROR collecting tests/test_dfs.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_dfs.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_dfs.py:1: in <module>
    from algorithms.dfs import (
E   ModuleNotFoundError: No module named 'algorithms'
_____ ERROR collecting tests/test_dp.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_dp.py'.
Hint: make sure your test modules/packages have valid Python names.
```

Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_dp.py:1: in <module>
    from algorithms.dp import (
E   ModuleNotFoundError: No module named 'algorithms'

_____ ERROR collecting tests/test_graph.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_graph.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_graph.py:1: in <module>
    from algorithms.graph import Tarjan
E   ModuleNotFoundError: No module named 'algorithms'

_____ ERROR collecting tests/test_greedy.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_greedy.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_greedy.py:1: in <module>
    from algorithms.greedy import (
E   ModuleNotFoundError: No module named 'algorithms'

_____ ERROR collecting tests/test_heap.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_heap.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_heap.py:1: in <module>
    from algorithms.heap import (
E   ModuleNotFoundError: No module named 'algorithms'
_____ ERROR collecting tests/test_histogram.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_histogram.py'.
Hint: make sure your test modules/packages have valid Python names.

```
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_histogram.py:1: in <module>
    from algorithms.distribution.histogram import get_histogram
E   ModuleNotFoundError: No module named 'algorithms'
_____ ERROR collecting tests/test_iterative_segment_tree.py _____
ImportError while importing test module
'/home/set-iitgn-vm/algorithms/tests/test_iterative_segment_tree.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_iterative_segment_tree.py:1: in <module>
    from algorithms.tree.segment_tree.iterative_segment_tree import SegmentTree
E   ModuleNotFoundError: No module named 'algorithms'
_____ ERROR collecting tests/test_linkedlist.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_linkedlist.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_linkedlist.py:3: in <module>
    from algorithms.linkedlist import (
E   ModuleNotFoundError: No module named 'algorithms'
_____ ERROR collecting tests/test_map.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_map.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_map.py:1: in <module>
    from algorithms.map import (
E   ModuleNotFoundError: No module named 'algorithms'
_____ ERROR collecting tests/test_maths.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_maths.py'.
```

Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_maths.py:1: in <module>
    from algorithms.maths import (
E   ModuleNotFoundError: No module named 'algorithms'

_____ ERROR collecting tests/test_matrix.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_matrix.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_matrix.py:1: in <module>
    from algorithms.matrix import (
E   ModuleNotFoundError: No module named 'algorithms'

_____ ERROR collecting tests/test_ml.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_ml.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_ml.py:1: in <module>
    from algorithms.ml.nearest_neighbor import (
E   ModuleNotFoundError: No module named 'algorithms'

_____ ERROR collecting tests/test_monomial.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_monomial.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_monomial.py:1: in <module>
    from algorithms.maths.polynomial import Monomial
E   ModuleNotFoundError: No module named 'algorithms'
_____ ERROR collecting tests/test_polynomial.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_polynomial.py'.

Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_polynomial.py:1: in <module>
    from algorithms.maths.polynomial import (
E   ModuleNotFoundError: No module named 'algorithms'

_____ ERROR collecting tests/test_queues.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_queues.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_queues.py:3: in <module>
    from algorithms.queues import (
E   ModuleNotFoundError: No module named 'algorithms'

_____ ERROR collecting tests/test_search.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_search.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_search.py:1: in <module>
    from algorithms.search import (
E   ModuleNotFoundError: No module named 'algorithms'

_____ ERROR collecting tests/test_set.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_set.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_set.py:1: in <module>
    from algorithms.set import (
E   ModuleNotFoundError: No module named 'algorithms'

_____ ERROR collecting tests/test_sort.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_sort.py'.

Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_sort.py:1: in <module>
    from algorithms.sort import (
E   ModuleNotFoundError: No module named 'algorithms'

_____ ERROR collecting tests/test_stack.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_stack.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_stack.py:1: in <module>
    from algorithms.stack import (
E   ModuleNotFoundError: No module named 'algorithms'

_____ ERROR collecting tests/test_streaming.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_streaming.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_streaming.py:1: in <module>
    from algorithms.streaming.misra_gries import (
E   ModuleNotFoundError: No module named 'algorithms'

_____ ERROR collecting tests/test_strings.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_strings.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_strings.py:1: in <module>
    from algorithms.strings import (
E   ModuleNotFoundError: No module named 'algorithms'

_____ ERROR collecting tests/test_tree.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_tree.py'.

```
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_tree.py:1: in <module>
    from algorithms.tree.traversal import (
E   ModuleNotFoundError: No module named 'algorithms'
_____ ERROR collecting tests/test_unix.py _____
ImportError while importing test module '/home/set-iitgn-vm/algorithms/tests/test_unix.py'.
Hint: make sure your test modules/packages have valid Python names.
Traceback:
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
tests/test_unix.py:1: in <module>
    from algorithms.unix import (
E   ModuleNotFoundError: No module named 'algorithms'
=========================== short test summary info ============================
ERROR tests/test_array.py
ERROR tests/test_automata.py
ERROR tests/test_backtrack.py
ERROR tests/test_bfs.py
ERROR tests/test_bit.py
ERROR tests/test_compression.py
ERROR tests/test_dfs.py
ERROR tests/test_dp.py
ERROR tests/test_graph.py
ERROR tests/test_greedy.py
ERROR tests/test_heap.py
ERROR tests/test_histogram.py
ERROR tests/test_iterative_segment_tree.py
ERROR tests/test_linkedlist.py
ERROR tests/test_map.py
ERROR tests/test_maths.py
ERROR tests/test_matrix.py
ERROR tests/test_ml.py
ERROR tests/test_monomial.py
ERROR tests/test_polynomial.py
ERROR tests/test_queues.py
ERROR tests/test_search.py
```

```
ERROR tests/test_set.py
ERROR tests/test_sort.py
ERROR tests/test_stack.py
ERROR tests/test_streaming.py
ERROR tests/test_strings.py
ERROR tests/test_tree.py
ERROR tests/test_unix.py
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! Interrupted: 29 errors during collection
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
================================================================================
======== 29 errors in 0.24s
================================================================================
=========
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pip install -e

Usage:
  pip install [options] <requirement specifier> [package-index-options] ...
  pip install [options] -r <requirements file> [package-index-options] ...
  pip install [options] [-e] <vcs project url> ...
  pip install [options] [-e] <local project path> ...
  pip install [options] <archive url/path> ...

-e option requires 1 argument
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pip install -e .
Obtaining file:///home/set-iitgn-vm/algorithms
  Preparing metadata (setup.py) ... done
Installing collected packages: algorithms
  Running setup.py develop for algorithms
Successfully installed algorithms-0.1.4

[notice] A new release of pip is available: 23.0.1 -> 25.0
[notice] To update, run: pip install --upgrade pip
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest
================================================================================
======== test session starts
================================================================================
========
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, func-cov-0.2.3
collected 387 items / 1 error

================================================================================
============== ERRORS
```

```
================================================================================
===============
_______________________________________________________________________________
ERROR collecting tests/test_array.py
_______________________________________________________________________________
../STT-lab5-env/lib/python3.10/site-packages/_pytest/python.py:493: in importtestmodule
    mod = import_path(
../STT-lab5-env/lib/python3.10/site-packages/_pytest/pathlib.py:587: in import_path
    importlib.import_module(module_name)
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
<frozen importlib._bootstrap>:1050: in _gcd_import
    ???
<frozen importlib._bootstrap>:1027: in _find_and_load
    ???
<frozen importlib._bootstrap>:1006: in _find_and_load_unlocked
    ???
<frozen importlib._bootstrap>:688: in _load_unlocked
    ???
../STT-lab5-env/lib/python3.10/site-packages/_pytest/assertion/rewrite.py:175: in exec_module
    source_stat, co = _rewrite_test(fn, self.config)
../STT-lab5-env/lib/python3.10/site-packages/_pytest/assertion/rewrite.py:355: in _rewrite_test
    tree = ast.parse(source, filename=strfn)
/usr/local/lib/python3.10/ast.py:50: in parse
    return compile(source, filename, mode, flags,
E     File "/home/set-iitgn-vm/algorithms/tests/test_array.py", line 13
E       rotate_v1, rotate_v2, rotate_v3,
E       ^^^^^^^^^
E   SyntaxError: invalid syntax
================================================================================
========= warnings summary
================================================================================
==========
algorithms/strings/validate_coordinates.py:49
  /home/set-iitgn-vm/algorithms/algorithms/strings/validate_coordinates.py:49:
DeprecationWarning: invalid escape sequence '\d'
    return bool(re.match("-?(\d|[1-8]\d|90)\.?\d*, -?(\d|[1-9]\d|1[0-7]\d|180)\.?\d*$", coordinates))

algorithms/tree/construct_tree_postorder_preorder.py:1
  /home/set-iitgn-vm/algorithms/algorithms/tree/construct_tree_postorder_preorder.py:1:
DeprecationWarning: invalid escape sequence '\ '
    """

-- Docs: https://docs.pytest.org/en/stable/how-to/capture-warnings.html
```

```
=========================================================================
====== short test summary info
=========================================================================
======
ERROR tests/test_array.py
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! Interrupted: 1 error during collection
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
=========================================================================
=== 2 warnings, 1 error in 0.32s
=========================================================================
====
(STT-lab5-env) set-iitgn-vm@set
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ history
1  cd ..
   2  source STT-lab5-env/bin/activate
   3  cd
   4  source STT-lab5-env/bin/activate
   5  ls
   6  cd algorithms
   7  git rev-parse HEAD
   8  ls
   9  pytest
  10  pip install -e
  11  pytest
  12  pip install -e
  13  t-iitgn-vm@set-iitgn-vm:~$ source STT-lab5-env/bin/activate
  14  (STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~$ ls
  15  algorithms  Downloads  lib64      Pictures    snap          Templates
  16  Desktop     include    Music      playground  software      Videos
  17  Documents   lib        nltk_data  Public      STT-lab5-env
  18  pip install -e
  19  ls
  20  pip install pytest
  21  pytest
  22  pip install -e
  23  cd
  24  cd algorithms
  25  ls
  26  cd algorithms
  27  pytest
  28  cd  ..
  29  pytest
  30  pip install -e
  31  pip install -e .
```

32 pytest
33 history

OTHER VS CODE

```
set-iitgn-vm@set-iitgn-vm:~/algorithms$ cd
set-iitgn-vm@set-iitgn-vm:~$ source STT-lab5-env/bin/activate
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~$ cd algorithms
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest
============================================================================
== test session starts
============================================================================
==
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, func-cov-0.2.3
collected 387 items / 1 error

============================================================================
======== ERRORS
============================================================================
=========
_____________________________________________________________________ ERROR
collecting tests/test_array.py
_____________________________________________________________________
../STT-lab5-env/lib/python3.10/site-packages/_pytest/python.py:493: in importtestmodule
    mod = import_path(
../STT-lab5-env/lib/python3.10/site-packages/_pytest/pathlib.py:587: in import_path
    importlib.import_module(module_name)
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
<frozen importlib._bootstrap>:1050: in _gcd_import
    ???
<frozen importlib._bootstrap>:1027: in _find_and_load
    ???
<frozen importlib._bootstrap>:1006: in _find_and_load_unlocked
    ???
<frozen importlib._bootstrap>:688: in _load_unlocked
    ???
../STT-lab5-env/lib/python3.10/site-packages/_pytest/assertion/rewrite.py:175: in exec_module
    source_stat, co = _rewrite_test(fn, self.config)
../STT-lab5-env/lib/python3.10/site-packages/_pytest/assertion/rewrite.py:355: in _rewrite_test
    tree = ast.parse(source, filename=strfn)
/usr/local/lib/python3.10/ast.py:50: in parse
```

```
    return compile(source, filename, mode, flags,
E     File "/home/set-iitgn-vm/algorithms/tests/test_array.py", line 13
E       rotate_v1, rotate_v2, rotate_v3,
E       ^^^^^^^^^
E   SyntaxError: invalid syntax
=========================================================================
short test summary info
=========================================================================
ERROR tests/test_array.py
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! Interrupted: 1 error during collection
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
=========================================================================
=== 1 error in 0.23s
=========================================================================
====
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest
=========================================================================
== test session starts
=========================================================================
==
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, func-cov-0.2.3
collected 416 items

tests/test_array.py .....................F...F......
[  6%]
tests/test_automata.py .
[  7%]
tests/test_backtrack.py ........................
[ 13%]
tests/test_bfs.py ...
[ 13%]
tests/test_bit.py ..............................
[ 20%]
tests/test_compression.py .....
[ 22%]
tests/test_dfs.py ........
[ 24%]
tests/test_dp.py ................................
[ 31%]
tests/test_graph.py .....................
[ 36%]
```

tests/test_greedy.py .
[36%]
tests/test_heap.py .....
[37%]
tests/test_histogram.py .
[37%]
tests/test_iterative_segment_tree.py ....
[40%]
tests/test_linkedlist.py ....
[43%]
tests/test_map.py ....
[49%]
tests/test_maths.py ....
[61%]
tests/test_matrix.py ....
[64%]
tests/test_ml.py ..
[64%]
tests/test_monomial.py ....
[66%]
tests/test_polynomial.py ....
[68%]
tests/test_queues.py .....
[69%]
tests/test_search.py ....
[72%]
tests/test_set.py .
[72%]
tests/test_sort.py ....
[77%]
tests/test_stack.py ....
[80%]
tests/test_streaming.py ....
[81%]
tests/test_strings.py ....
[96%]
tests/test_tree.py ....
[99%]
tests/test_unix.py ....
[100%]

==
======= FAILURES

```
================================================================================
========

_____________________________________________________________________
TestRemoveDuplicate.test_remove_duplicates
_____________________________________________________________________

self = <test_array.TestRemoveDuplicate testMethod=test_remove_duplicates>

    def test_remove_duplicates(self):
>       self.assertListEqual(remove_duplicates([1,1,1,2,2,2,3,3,4,4,5,6,7,7,7,8,8,9,10,10]))
E       TypeError: TestCase.assertListEqual() missing 1 required positional argument: 'list2'

tests/test_array.py:305: TypeError
_____________________________________________________________________
TestSummaryRanges.test_summarize_ranges
_____________________________________________________________________

self = <test_array.TestSummaryRanges testMethod=test_summarize_ranges>

    def test_summarize_ranges(self):

>       self.assertListEqual(summarize_ranges([0, 1, 2, 4, 5, 7]),
                             [(0, 2), (4, 5), (7, 7)])
E       AssertionError: Lists differ: ['0-2', '4-5', '7'] != [(0, 2), (4, 5), (7, 7)]
E
E       First differing element 0:
E       '0-2'
E       (0, 2)
E
E       - ['0-2', '4-5', '7']
E       + [(0, 2), (4, 5), (7, 7)]

tests/test_array.py:349: AssertionError
================================================================================
short test summary info
================================================================================
FAILED tests/test_array.py::TestRemoveDuplicate::test_remove_duplicates - TypeError:
TestCase.assertListEqual() missing 1 required positional argument: 'list2'
FAILED tests/test_array.py::TestSummaryRanges::test_summarize_ranges - AssertionError:
Lists differ: ['0-2', '4-5', '7'] != [(0, 2), (4, 5), (7, 7)]
============================================================================ 2
failed, 414 passed in 2.84s
============================================================================
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest
```

```
============================================================================
== test session starts
============================================================================
==
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, func-cov-0.2.3
collected 387 items / 1 error

============================================================================
======== ERRORS
============================================================================
=========
_____________________________________________________________________ ERROR
collecting tests/test_array.py
_____________________________________________________________________
../STT-lab5-env/lib/python3.10/site-packages/_pytest/python.py:493: in importtestmodule
    mod = import_path(
../STT-lab5-env/lib/python3.10/site-packages/_pytest/pathlib.py:587: in import_path
    importlib.import_module(module_name)
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
<frozen importlib._bootstrap>:1050: in _gcd_import
    ???
<frozen importlib._bootstrap>:1027: in _find_and_load
    ???
<frozen importlib._bootstrap>:1006: in _find_and_load_unlocked
    ???
<frozen importlib._bootstrap>:688: in _load_unlocked
    ???
../STT-lab5-env/lib/python3.10/site-packages/_pytest/assertion/rewrite.py:184: in exec_module
    exec(co, module.__dict__)
tests/test_array.py:1: in <module>
    from algorithms.arrays import (
algorithms/arrays/__init__.py:1: in <module>
    from .delete_nth import *
E     File "/home/set-iitgn-vm/algorithms/algorithms/arrays/delete_nth.py", line 10
E       https://github.com/keon/algorithms
E             ^^
E   SyntaxError: invalid syntax
============================================================================
short test summary info
============================================================================
ERROR tests/test_array.py
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! Interrupted: 1 error during collection
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
================================================================================
=== 1 error in 0.26s
================================================================================
====
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest
================================================================================
== test session starts
================================================================================
==
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, func-cov-0.2.3
collected 387 items / 1 error

================================================================================
======== ERRORS
================================================================================
=========
_____________________________________________________________________________ ERROR
collecting tests/test_array.py
_____________________________________________________________________________
../STT-lab5-env/lib/python3.10/site-packages/_pytest/python.py:493: in importtestmodule
    mod = import_path(
../STT-lab5-env/lib/python3.10/site-packages/_pytest/pathlib.py:587: in import_path
    importlib.import_module(module_name)
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
<frozen importlib._bootstrap>:1050: in _gcd_import
    ???
<frozen importlib._bootstrap>:1027: in _find_and_load
    ???
<frozen importlib._bootstrap>:1006: in _find_and_load_unlocked
    ???
<frozen importlib._bootstrap>:688: in _load_unlocked
    ???
../STT-lab5-env/lib/python3.10/site-packages/_pytest/assertion/rewrite.py:184: in exec_module
    exec(co, module.__dict__)
tests/test_array.py:1: in <module>
    from algorithms.arrays import (
algorithms/arrays/__init__.py:1: in <module>
    from .delete_nth import *
E     File "/home/set-iitgn-vm/algorithms/algorithms/arrays/delete_nth.py", line 10
```

```
E       https:/github.com/keon/algorithms
E               ^
E   SyntaxError: invalid syntax
=========================================================================
short test summary info
=========================================================================
ERROR tests/test_array.py
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! Interrupted: 1 error during collection
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
=========================================================================
=== 1 error in 0.23s
=========================================================================
====
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest
=========================================================================
== test session starts
=========================================================================
==
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, func-cov-0.2.3
collected 387 items / 1 error

=========================================================================
======== ERRORS
=========================================================================
=========
_____________________________________________________________________ ERROR
collecting tests/test_array.py
_____________________________________________________________________
../STT-lab5-env/lib/python3.10/site-packages/_pytest/python.py:493: in importtestmodule
    mod = import_path(
../STT-lab5-env/lib/python3.10/site-packages/_pytest/pathlib.py:587: in import_path
    importlib.import_module(module_name)
/usr/local/lib/python3.10/importlib/__init__.py:126: in import_module
    return _bootstrap._gcd_import(name[level:], package, level)
<frozen importlib._bootstrap>:1050: in _gcd_import
    ???
<frozen importlib._bootstrap>:1027: in _find_and_load
    ???
<frozen importlib._bootstrap>:1006: in _find_and_load_unlocked
    ???
<frozen importlib._bootstrap>:688: in _load_unlocked
    ???
```

```
../STT-lab5-env/lib/python3.10/site-packages/_pytest/assertion/rewrite.py:184: in exec_module
    exec(co, module.__dict__)
tests/test_array.py:1: in <module>
    from algorithms.arrays import (
algorithms/arrays/__init__.py:1: in <module>
    from .delete_nth import *
E     File "/home/set-iitgn-vm/algorithms/algorithms/arrays/delete_nth.py", line 11
E       https://github.com/keon/algorithms
E             ^^
E   SyntaxError: invalid syntax
=========================================================================
short test summary info
=========================================================================
ERROR tests/test_array.py
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! Interrupted: 1 error during collection
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
=========================================================================
=== 1 error in 0.22s
=========================================================================
====
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest
=========================================================================
== test session starts
=========================================================================
==
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, func-cov-0.2.3
collected 414 items

tests/test_array.py ..........................
[  6%]
tests/test_automata.py .
[  6%]
tests/test_backtrack.py ......................
[ 12%]
tests/test_bfs.py ...
[ 13%]
tests/test_bit.py ............................
[ 20%]
tests/test_compression.py .....
[ 21%]
tests/test_dfs.py ........
[ 23%]
```

```
tests/test_dp.py ..............................
[ 31%]
tests/test_graph.py .....................
[ 35%]
tests/test_greedy.py .
[ 36%]
tests/test_heap.py .....
[ 37%]
tests/test_histogram.py .
[ 37%]
tests/test_iterative_segment_tree.py .........
[ 39%]
tests/test_linkedlist.py .............
[ 42%]
tests/test_map.py ........................
[ 48%]
tests/test_maths.py ..................................................
[ 60%]
tests/test_matrix.py ..............
[ 64%]
tests/test_ml.py ..
[ 64%]
tests/test_monomial.py ........
[ 66%]
tests/test_polynomial.py .......
[ 68%]
tests/test_queues.py .....
[ 69%]
tests/test_search.py ..............
[ 72%]
tests/test_set.py .
[ 72%]
tests/test_sort.py ......................
[ 77%]
tests/test_stack.py ..........
[ 79%]
tests/test_streaming.py ....
[ 80%]
tests/test_strings.py ..........................................................
[ 96%]
tests/test_tree.py ............
[ 99%]
tests/test_unix.py ....
[100%]
```

```
============================================================================
== 414 passed in 2.79s
============================================================================
==
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest --cov=algorithms
--cov-report=html
============================================================================
== test session starts
============================================================================
==
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, func-cov-0.2.3
collected 414 items

tests/test_array.py ..........................
[  6%]
tests/test_automata.py .
[  6%]
tests/test_backtrack.py ......................
[ 12%]
tests/test_bfs.py ...
[ 13%]
tests/test_bit.py ............................
[ 20%]
tests/test_compression.py .....
[ 21%]
tests/test_dfs.py ........
[ 23%]
tests/test_dp.py .............................
[ 31%]
tests/test_graph.py ......................
[ 35%]
tests/test_greedy.py .
[ 36%]
tests/test_heap.py .....
[ 37%]
tests/test_histogram.py .
[ 37%]
tests/test_iterative_segment_tree.py .........
[ 39%]
tests/test_linkedlist.py .............
[ 42%]
```

```
tests/test_map.py .....
[ 48%]
tests/test_maths.py .....
[ 60%]
tests/test_matrix.py .....
[ 64%]
tests/test_ml.py ..
[ 64%]
tests/test_monomial.py .....
[ 66%]
tests/test_polynomial.py .....
[ 68%]
tests/test_queues.py .....
[ 69%]
tests/test_search.py .....
[ 72%]
tests/test_set.py .
[ 72%]
tests/test_sort.py .....
[ 77%]
tests/test_stack.py .....
[ 79%]
tests/test_streaming.py ....
[ 80%]
tests/test_strings.py .....
[ 96%]
tests/test_tree.py .....
[ 99%]
tests/test_unix.py ....
[100%]

---------- coverage: platform linux, python 3.10.11-final-0 ----------
Coverage HTML written to dir htmlcov


==========================================================================
== 414 passed in 6.27s
==========================================================================
==
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pynguin --help
usage: pynguin [-h] [--version] [-v] [--no-rich] [--log-file Path] --project_path str --module-name str
[--algorithm Algorithm] [--ignore-modules list]
            [--ignore_methods list] --output-path str [--export-strategy ExportStrategy]
[--max_length_test_case int] [--assertion_generation AssertionGenerator]
```

[--allow-stale-assertions bool] [--mutation-strategy MutationStrategy] [--mutation-order int] [--post_process bool] [--float_precision float]
[--format-with-black bool] [--report-dir str] [--statistics_backend StatisticsBackend] [--timeline-interval int] [--timeline_interpolation bool]
[--coverage_metrics list] [--output-variables list] [--configuration_id str] [--run_id str] [--project_name str] [--create_coverage_report bool]
[--type_guess_top_n int] [--maximum_search_time int] [--maximum_test_executions int] [--maximum-statement-executions int] [--maximum-slicing-time int]
[--maximum_iterations int] [--maximum-test-execution-timeout int] [--maximum-coverage int] [--maximum_coverage_plateau int] [--minimum_coverage int]
[--minimum_plateau_iterations int] [--test_execution_time_per_statement int] [--seed int] [--constant_seeding bool] [--initial-population-seeding bool]
[--initial_population_data str] [--seeded_testcases_reuse_probability float] [--initial_population_mutations int] [--dynamic-constant-seeding bool]
[--seeded_primitives_reuse_probability float] [--seeded_dynamic_values_reuse_probability float] [--seed-from-archive bool]
[--seed-from-archive-probability float] [--seed_from_archive_mutations int] [--max-dynamic-length int] [--max-dynamic-pool-size int]
[--type-inference-strategy TypeInferenceStrategy] [--type-tracing bool] [--max-recursion int] [--max_delta int] [--max_int int] [--string-length int]
[--bytes_length int] [--collection_size int] [--primitive-reuse-probability float] [--object-reuse-probability float] [--none_weight float]
[--any_weight float] [--original_type_weight float] [--type_tracing_weight float] [--type4py-weight float] [--type-tracing-kept-guesses int]
[--wrap_var_param_type_probability float] [--negate-type float] [--skip_optional_parameter_probability float] [--max-attempts int]
[--insertion_uut float] [--max-size int] [--use_random_object_for_call float] [--min_initial_tests int] [--max-initial-tests int] [--population int]
[--chromosome_length int] [--chop_max_length bool] [--elite int] [--crossover_rate float] [--test_insertion_probability float]
[--test_delete_probability float] [--test_change_probability float] [--test-insert-probability float] [--statement_insertion_probability float]
[--random_perturbation float] [--change_parameter_probability float] [--tournament_size int] [--rank_bias float] [--selection Selection]
[--use_archive bool] [--filter-covered-targets-from-test-cluster bool] [--number-of-mutations int] [--exploitation-starts-at-percent float]
[--initial_config.number_of_tests_per_target int] [--initial-config.random-test-or-from-archive-probability float]
[--initial_config.number_of_mutations int] [--focused-config.number-of-tests-per-target int]
[--focused_config.random_test_or_from_archive_probability float] [--focused_config.number_of_mutations int] [--max_sequence_length int]
[--max_sequences_combined int]

Pynguin is an automatic unit test generation framework for Python

options:
  -h, --help   show this help message and exit
  --version   show program's version number and exit
  -v, --verbose   verbose output (repeat for increased verbosity) (default: 0)
  --no-rich, --no_rich, --poor
                        Don't use rich for nicer consoler output. (default: False)
  --log-file Path, --log_file Path
                        Path to an optional log file. (default: None)

Configuration ['config']:
  General configuration for the test generator.

  --project_path str, --project-path str
                        Path to the project the generator shall create tests for. (default: None)
  --module-name str, --module_name str
                        Name of the module for which the generator shall create tests. (default: None)
  --algorithm Algorithm
                        The algorithm that shall be used for generation. (default: DYNAMOSA)
  --ignore-modules list, --ignore_modules list
                        Ignore the modules specified here from the module analysis. (default: [])
  --ignore_methods list, --ignore-methods list
                        Ignore the methods specified here from the module analysis. (default: [])

TestCaseOutputConfiguration ['config.test_case_output']:
  Configuration for how test cases should be output.

  --output-path str, --output_path str
                        Path to an output folder for the generated test cases. (default: None)
  --export-strategy ExportStrategy, --export_strategy ExportStrategy
                        The export strategy determines for which test-runner system the generated tests
should fit. (default: PY_TEST)
  --max_length_test_case int, --max-length-test-case int
                        The maximum number of statement in as test case (normal + assertion
statements) (default: 2500)
  --assertion_generation AssertionGenerator, --assertion-generation AssertionGenerator
                        The generator that shall be used for assertion generation. (default:
MUTATION_ANALYSIS)
  --allow-stale-assertions bool, --allow_stale_assertions bool, --noallow-stale-assertions bool,
--noallow_stale_assertions bool
                        Allow assertion on things that did not change between statement executions.
(default: False)
  --mutation-strategy MutationStrategy, --mutation_strategy MutationStrategy

The strategy that shall be used for creating mutants in the mutation analysis assertion generation method. (default: FIRST_ORDER_MUTANTS)
--mutation-order int, --mutation_order int
The order of the generated higher order mutants in the mutation analysis assertion generation method. (default: 1)
--post_process bool, --post-process bool, --nopost_process bool, --nopost-process bool
Should the results be post processed? For example, truncate test cases after statements that raise an exception. (default: True)
--float_precision float, --float-precision float
Precision to use in float comparisons and assertions (default: 0.01)
--format-with-black bool, --format_with_black bool, --noformat-with-black bool, --noformat_with_black bool
Format the generated test cases using black. (default: True)

StatisticsOutputConfiguration ['config.statistics_output']:
Configuration related to output.

--report-dir str, --report_dir str
Directory in which to put HTML and CSV reports (default: pynguin-report)
--statistics_backend StatisticsBackend, --statistics-backend StatisticsBackend
Which backend to use to collect data (default: CSV)
--timeline-interval int, --timeline_interval int
Time interval in nano-seconds for timeline statistics, i.e., we select a data point after each interval. This can be interpolated, if there is
no exact value stored at the time-step of the interval, see `timeline_interpolation`. The default value is every 1.00s. (default: 1000000000)
--timeline_interpolation bool, --timeline-interpolation bool, --notimeline_interpolation bool, --notimeline-interpolation bool
Interpolate timeline values (default: True)
--coverage_metrics list, --coverage-metrics list
(default: [<CoverageMetric.BRANCH: 'BRANCH'>])
--output-variables list, --output_variables list
(default: [TargetModule, Coverage])
--configuration_id str, --configuration-id str
Label that identifies the used configuration of Pynguin. This is only done when running experiments. (default:)
--run_id str, --run-id str
Id of the cluster run. Useful for finding the log entries that belong to a certain result. (default:)
--project_name str, --project-name str
Label that identifies the project name of Pynguin. This is useful when running experiments. (default:)
--create_coverage_report bool, --create-coverage-report bool, --nocreate_coverage_report bool, --nocreate-coverage-report bool

Create a coverage report for the tested module. This can be helpful to find hard to cover parts because Pynguin measures coverage on bytecode
level which might yield different results when compared with other tools, e.g., Coverage.py. (default: False)
--type_guess_top_n int, --type-guess-top-n int
When exporting type guesses for parameters, how many guesses per parameter should be exported? Expects positive integers. (default: 10)

StoppingConfiguration ['config.stopping']:
Stopping configuration.

--maximum_search_time int, --maximum-search-time int
Time (in seconds) that can be used for generating tests. (default: -1)
--maximum_test_executions int, --maximum-test-executions int
Maximum number of test cases to be executed. (default: -1)
--maximum-statement-executions int, --maximum_statement_executions int
Maximum number of test cases to be executed. (default: -1)
--maximum-slicing-time int, --maximum_slicing_time int
Time budget (in seconds) that can be used for slicing. (default: 600)
--maximum_iterations int, --maximum-iterations int
Maximum iterations (default: -1)
--maximum-test-execution-timeout int, --maximum_test_execution_timeout int
The maximum time (in seconds) after which a test case times out. (default: 5)
--maximum-coverage int, --maximum_coverage int
The maximum percentage of coverage after which the generation shall stop. (default: 100)
--maximum_coverage_plateau int, --maximum-coverage-plateau int
Maximum number of algorithm iterations without coverage change before the algorithms stops. (default: -1)
--minimum_coverage int, --minimum-coverage int
Minimum coverage for the plateau-based stopping condition. Expects values larger than 0 but less than 100 to activate the stopping condition;
also requires the setting of minimum_plateau_iterations. (default: 100)
--minimum_plateau_iterations int, --minimum-plateau-iterations int
Minimum iterations without a coverage change to stop early. Expects values larger than 0; also requires the setting of minimum_coverage.
(default: -1)
--test_execution_time_per_statement int, --test-execution-time-per-statement int
The time (in seconds) per statement that a test is allowed to run (up to maximum_test_execution_timeout). (default: 1)

SeedingConfiguration ['config.seeding']:
Seeding configuration.

--seed int A predefined seed value for the random number generator that is used. (default: 1738819321335433752)
--constant_seeding bool, --constant-seeding bool, --noconstant_seeding bool, --noconstant-seeding bool
Should the generator use a static constant seeding technique to improve constant generation? (default: True)
--initial-population-seeding bool, --initial_population_seeding bool, --noinitial-population-seeding bool, --noinitial_population_seeding bool
Should the generator use previously existing testcases to seed the initial population? (default: False)
--initial_population_data str, --initial-population-data str
The path to the file with the pre-existing tests. The path has to include the file itself. (default:)
--seeded_testcases_reuse_probability float, --seeded-testcases-reuse-probability float
Probability of using seeded testcases when initial population seeding is enabled. (default: 0.9)
--initial_population_mutations int, --initial-population-mutations int
Number of how often the testcases collected by initial population seeding should be mutated to promote diversity (default: 0)
--dynamic-constant-seeding bool, --dynamic_constant_seeding bool, --nodynamic-constant-seeding bool, --nodynamic_constant_seeding bool
Enables seeding of constants at runtime. (default: True)
--seeded_primitives_reuse_probability float, --seeded-primitives-reuse-probability float
Probability for using seeded primitive values instead of randomly generated ones. (default: 0.2)
--seeded_dynamic_values_reuse_probability float, --seeded-dynamic-values-reuse-probability float
Probability of using dynamically seeded values when a primitive seeded value will be used. (default: 0.6)
--seed-from-archive bool, --seed_from_archive bool, --noseed-from-archive bool, --noseed_from_archive bool
When sampling new test cases reuse some from the archive, if one is used. (default: False)
--seed-from-archive-probability float, --seed_from_archive_probability float
Instead of creating a new test case, reuse a covering solution from the archive, iff an archive is used. (default: 0.2)
--seed_from_archive_mutations int, --seed-from-archive-mutations int
Number of mutations applied when sampling from the archive. (default: 3)
--max-dynamic-length int, --max_dynamic_length int
Maximum length of strings/bytes that should be stored in the dynamic constant pool. (default: 1000)
--max-dynamic-pool-size int, --max_dynamic_pool_size int
Maximum number of constants of the same type that should be stored in the dynamic constant pool. (default: 50)

TypeInferenceConfiguration ['config.type_inference']:
  Configuration related to type inference.

  --type-inference-strategy TypeInferenceStrategy, --type_inference_strategy TypeInferenceStrategy
                        The strategy for type-inference that shall be used (default: TYPE_HINTS)
  --type-tracing bool, --type_tracing bool, --notype-tracing bool, --notype_tracing bool
                        Trace usage of parameters with unknown types to improve type guesses. (default: False)

TestCreationConfiguration ['config.test_creation']:
  Configuration related to test creation.

  --max-recursion int, --max_recursion int
                        Recursion depth when trying to create objects in a test case. (default: 10)
  --max_delta int, --max-delta int
                        Maximum size of delta for numbers during mutation (default: 20)
  --max_int int, --max-int int
                        Maximum size of randomly generated integers (minimum range = -1 * max) (default: 2048)
  --string-length int, --string_length int
                        Maximum length of randomly generated strings (default: 20)
  --bytes_length int, --bytes-length int
                        Maximum length of randomly generated bytes (default: 20)
  --collection_size int, --collection-size int
                        Maximum length of randomly generated collections (default: 5)
  --primitive-reuse-probability float, --primitive_reuse_probability float
                        Probability to reuse an existing primitive in a test case, if available. Expects values in [0,1] (default: 0.5)
  --object-reuse-probability float, --object_reuse_probability float
                        Probability to reuse an existing object in a test case, if available. Expects values in [0,1] (default: 0.9)
  --none_weight float, --none-weight float
                        Weight to use None as parameter type during test generation. Expects values > 0. (default: 1)
  --any_weight float, --any-weight float
                        Weight to use Any as parameter type during test generation. Expects values > 0. (default: 5)
  --original_type_weight float, --original-type-weight float
                        Weight to use the originally annotated type as parameter type during test generation. Expects values > 0. (default: 5)
  --type_tracing_weight float, --type-tracing-weight float

Weight to use the type guessed from type tracing as parameter type during test generation. Expects values > 0. (default: 10)
--type4py-weight float, --type4py_weight float
Weight to use types inferred from type4py as parameter type during test generation. Expects values > 0. (default: 10)
--type-tracing-kept-guesses int, --type_tracing_kept_guesses int
Amount of kept recently guessed types per parameter, when type tracing is used. (default: 2)
--wrap_var_param_type_probability float, --wrap-var-param-type-probability float
Probability to wrap the type required for a *arg or **kwargs parameter in a list or dict, respectively. Expects values in [0,1] (default: 0.7)
--negate-type float, --negate_type float
When inferring a type from proxies, it may also be desirable to negate the chosen type, e.g., such that an instance check or a getattr()
evaluate to False. Expects values in [0,1] (default: 0.1)
--skip_optional_parameter_probability float, --skip-optional-parameter-probability float
Probability to skip an optional parameter, i.e., do not fill such a parameter. (default: 0.7)
--max-attempts int, --max_attempts int
Number of attempts when generating an object before giving up (default: 1000)
--insertion_uut float, --insertion-uut float
Score for selection of insertion of UUT calls (default: 0.5)
--max-size int, --max_size int
Maximum number of test cases in a test suite (default: 100)
--use_random_object_for_call float, --use-random-object-for-call float
When adding or modifying a call on an object, use a random modifier instead of only modifiers for that type. Expects values in [0, 1].
(default: 0.1)

SearchAlgorithmConfiguration ['config.search_algorithm']:
General configuration for search algorithms.

--min_initial_tests int, --min-initial-tests int
Minimum number of tests in initial test suites (default: 1)
--max-initial-tests int, --max_initial_tests int
Maximum number of tests in initial test suites (default: 10)
--population int Population size of genetic algorithm (default: 50)
--chromosome_length int, --chromosome-length int
Maximum length of chromosomes during search (default: 40)
--chop_max_length bool, --chop-max-length bool, --nochop_max_length bool, --nochop-max-length bool
Chop statements after exception if length has reached maximum (default: True)
--elite int Elite size for search algorithm (default: 1)
--crossover_rate float, --crossover-rate float

Probability of crossover (default: 0.75)
--test_insertion_probability float, --test-insertion-probability float
Initial probability of inserting a new test in a test suite (default: 0.1)
--test_delete_probability float, --test-delete-probability float
Probability of deleting statements during mutation (default: 0.3333333333333333)
--test_change_probability float, --test-change-probability float
Probability of changing statements during mutation (default: 0.3333333333333333)
--test-insert-probability float, --test_insert_probability float
Probability of inserting new statements during mutation (default: 0.3333333333333333)
--statement_insertion_probability float, --statement-insertion-probability float
Initial probability of inserting a new statement in a test case (default: 0.5)
--random_perturbation float, --random-perturbation float
Probability to replace a primitive with a random new value rather than adding a delta. (default: 0.2)
--change_parameter_probability float, --change-parameter-probability float
Probability of replacing parameters when mutating a method or constructor statement in a test case. Expects values in [0,1] (default: 0.1)
--tournament_size int, --tournament-size int
Number of individuals for tournament selection. (default: 5)
--rank_bias float, --rank-bias float
Bias for better individuals in rank selection (default: 1.7)
--selection Selection
The selection operator for genetic algorithms. (default: TOURNAMENT_SELECTION)
--use_archive bool, --use-archive bool, --nouse_archive bool, --nouse-archive bool
Some algorithms can be enhanced with an optional archive, e.g. Whole Suite -> Whole Suite + Archive. Use this option to enable the usage of an
archive. Algorithms that always use an archive are not affected by this option. (default: False)
--filter-covered-targets-from-test-cluster bool, --filter_covered_targets_from_test_cluster bool, --nofilter-covered-targets-from-test-cluster bool, --nofilter_covered_targets_from_test_cluster bool
Focus search by filtering out elements from the test cluster when they are fully covered. (default: False)
--number-of-mutations int, --number_of_mutations int
Number of mutations that should be applied in one breeding step. (default: 1)

MIOConfiguration ['config.mio']:
Configuration used for the MIO algorithm.

--exploitation-starts-at-percent float, --exploitation_starts_at_percent float

Percentage]0,1] of search budget after which exploitation is activated, i.e., switching to focused phase. (default: 0.5)

MIOPhaseConfiguration ['config.mio.initial_config']:
Configuration for a phase of MIO.

--initial_config.number_of_tests_per_target int, --initial-config.number-of-tests-per-target int
Number of test cases for each target goal to keep in an archive. (default: 10)
--initial-config.random-test-or-from-archive-probability float, --initial_config.random_test_or_from_archive_probability float
Probability [0,1] of sampling a new test at random or choose an existing one in an archive. (default: 0.5)
--initial_config.number_of_mutations int, --initial-config.number-of-mutations int
Number of mutations allowed to be done on the same individual before sampling a new one. (default: 1)

MIOPhaseConfiguration ['config.mio.focused_config']:
Configuration for a phase of MIO.

--focused-config.number-of-tests-per-target int, --focused_config.number_of_tests_per_target int
Number of test cases for each target goal to keep in an archive. (default: 1)
--focused_config.random_test_or_from_archive_probability float, --focused-config.random-test-or-from-archive-probability float
Probability [0,1] of sampling a new test at random or choose an existing one in an archive. (default: 0.0)
--focused_config.number_of_mutations int, --focused-config.number-of-mutations int
Number of mutations allowed to be done on the same individual before sampling a new one. (default: 10)

RandomConfiguration ['config.random']:
Configuration used for the RANDOM algorithm.

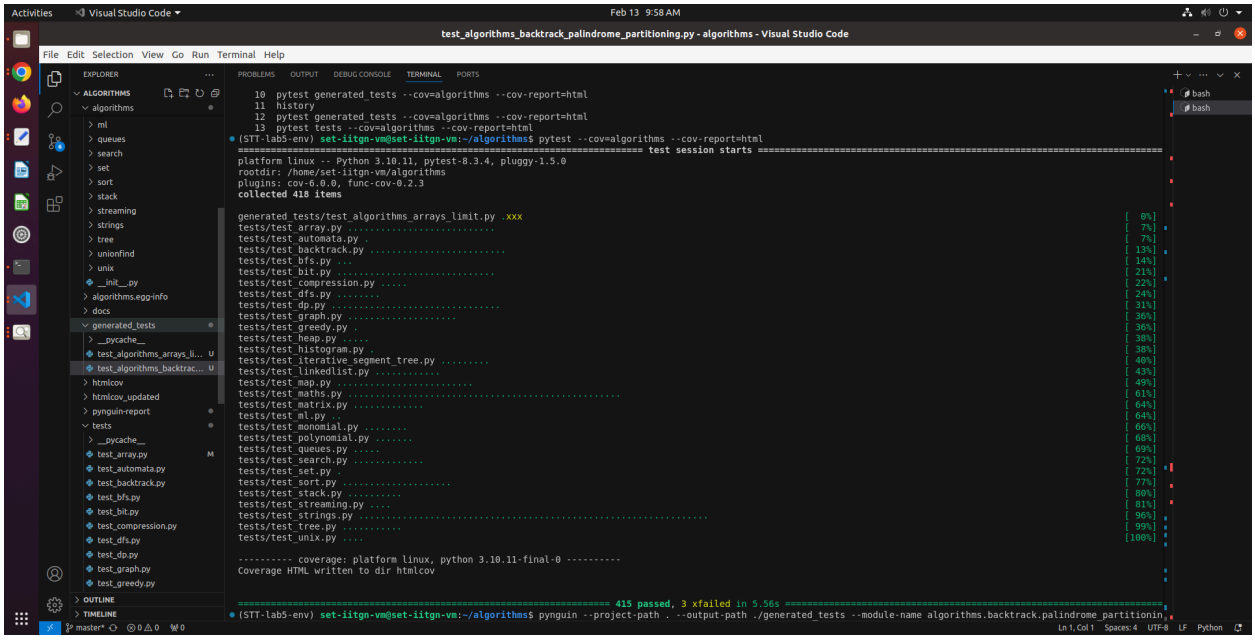
--max_sequence_length int, --max-sequence-length int
The maximum length of sequences that are generated, 0 means infinite. (default: 10)
--max_sequences_combined int, --max-sequences-combined int
The maximum number of combined sequences, 0 means infinite. (default: 10)
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pynguin --project-path . --output-path ./generated_tests --module-name algorithms
[10:57:22] ERROR SUT contains nothing we can test.
generator.py:129

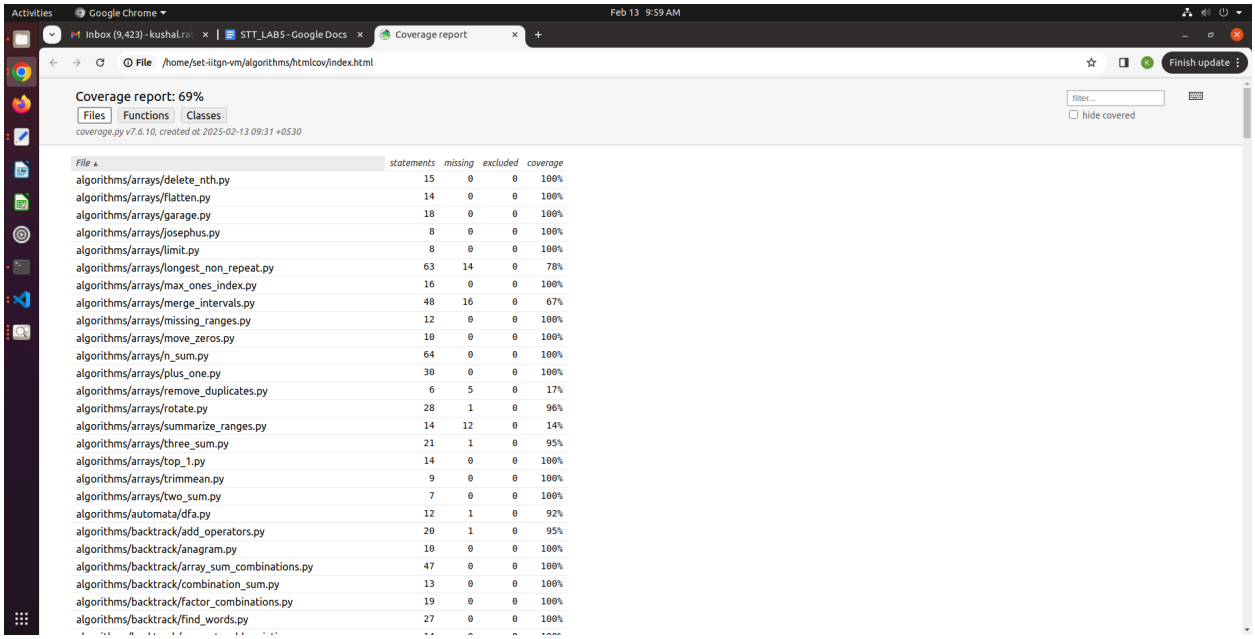
```
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pynguin --project-path
file:///home/set-iitgn-vm/algorithms/htmlcov/z_23075e258f4c705a_limit_py.html --output-path
./generated_tests --module-name algorithms
[11:04:20] ERROR
file:///home/set-iitgn-vm/algorithms/htmlcov/z_23075e258f4c705a_limit_py.html is not a valid
project path                    generator.py:144
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pynguin --project-path . --output-path
./generated_tests --module-name algorithms.arrays.limit
[False, 1, 1, 2, 1, 3, 'a', 0, 0]
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest generated_tests
--cov=algorithms --cov-report=html
============================================================================
== test session starts
============================================================================
==
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, func-cov-0.2.3
collected 4 items

generated_tests/test_algorithms_arrays_limit.py Fxxx
[100%]

============================================================================
======= FAILURES
============================================================================
========
_____________________________________________________________________________
__ test_case_0
_____________________________________________________________________________
__

    def test_case_0():
        dict_0 = {}
        none_type_0 = None
>       var_0 = module_0.limit(dict_0, none_type_0)
E       AttributeError: 'function' object has no attribute 'limit'

generated_tests/test_algorithms_arrays_limit.py:10: AttributeError

---------- coverage: platform linux, python 3.10.11-final-0 ----------
Coverage HTML written to dir htmlcov
```

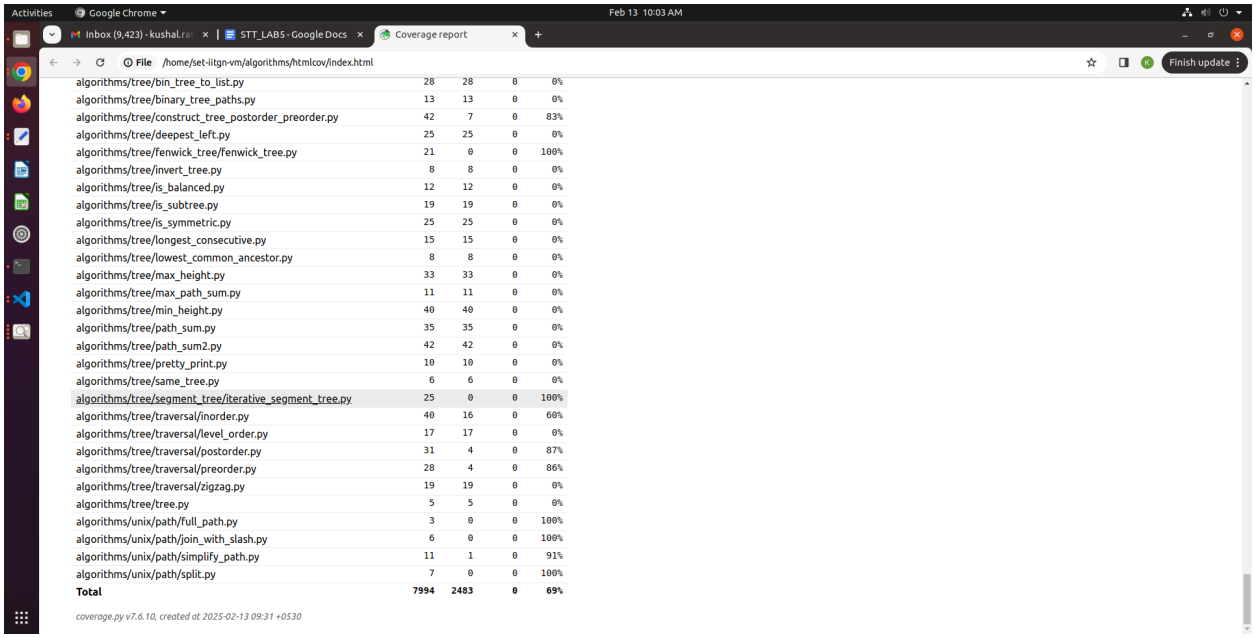
```
=========================================================================
short test summary info
=========================================================================
FAILED generated_tests/test_algorithms_arrays_limit.py::test_case_0 - AttributeError: 'function'
object has no attribute 'limit'
========================================================================= 1
failed, 3 xfailed in 1.29s
=========================================================================
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest generated_tests
--cov=algorithms --cov-report=html
=========================================================================
== test session starts
=========================================================================
==
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, func-cov-0.2.3
collected 4 items

generated_tests/test_algorithms_arrays_limit.py Fxxx
[100%]

=========================================================================
======= FAILURES
=========================================================================
========

_____________________________________________________________________________
__ test_case_0
_____________________________________________________________________________
__

    def test_case_0():
        dict_0 = {}
        none_type_0 = None
>       var_0 = module_0.limit(dict_0, none_type_0)
E       AttributeError: 'function' object has no attribute 'limit'

generated_tests/test_algorithms_arrays_limit.py:10: AttributeError

---------- coverage: platform linux, python 3.10.11-final-0 ----------
Coverage HTML written to dir htmlcov
```

```
=========================================================================
short test summary info
=========================================================================
FAILED generated_tests/test_algorithms_arrays_limit.py::test_case_0 - AttributeError: 'function'
object has no attribute 'limit'
========================================================================= 1
failed, 3 xfailed in 0.74s
=========================================================================
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest generated_tests
--cov=algorithms --cov-report=html
=========================================================================
== test session starts
=========================================================================
==
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, func-cov-0.2.3
collected 4 items

generated_tests/test_algorithms_arrays_limit.py Fxxx
[100%]

=========================================================================
======= FAILURES
=========================================================================
========

_____________________________________________________________________________
__ test_case_0
_____________________________________________________________________________
__

    def test_case_0():
        dict_0 = {}
        none_type_0 = None
>       var_0 = module_0(dict_0, none_type_0)
E       TypeError: 'module' object is not callable

generated_tests/test_algorithms_arrays_limit.py:10: TypeError

---------- coverage: platform linux, python 3.10.11-final-0 ----------
Coverage HTML written to dir htmlcov
```

```
=========================================================================
short test summary info
=========================================================================
FAILED generated_tests/test_algorithms_arrays_limit.py::test_case_0 - TypeError: 'module'
object is not callable
========================================================================= 1
failed, 3 xfailed in 0.75s
=========================================================================
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest generated_tests
--cov=algorithms --cov-report=html
=========================================================================
== test session starts
=========================================================================
==
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, func-cov-0.2.3
collected 4 items

generated_tests/test_algorithms_arrays_limit.py .xxx
[100%]

---------- coverage: platform linux, python 3.10.11-final-0 ----------
Coverage HTML written to dir htmlcov


========================================================================= 1
passed, 3 xfailed in 0.72s
=========================================================================
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$
 1  cd
    2  source STT-lab5-env/bin/activate
    3  cd algorithms
    4  pytest
    5  pytest --cov=algorithms --cov-report=html
    6  pynguin --help
    7  pynguin --project-path . --output-path ./generated_tests --module-name algorithms
    8* pynguin --project-path
file:///home/set-iitgn-vm/algorithms/htmlcov/z_23075e258f4c705a_limit_py.html --output-path
./generated_tests --module-name algo
    9  pynguin --project-path . --output-path ./generated_tests --module-name
algorithms.arrays.limit
   10  pytest generated_tests --cov=algorithms --cov-report=html
   11  history
```

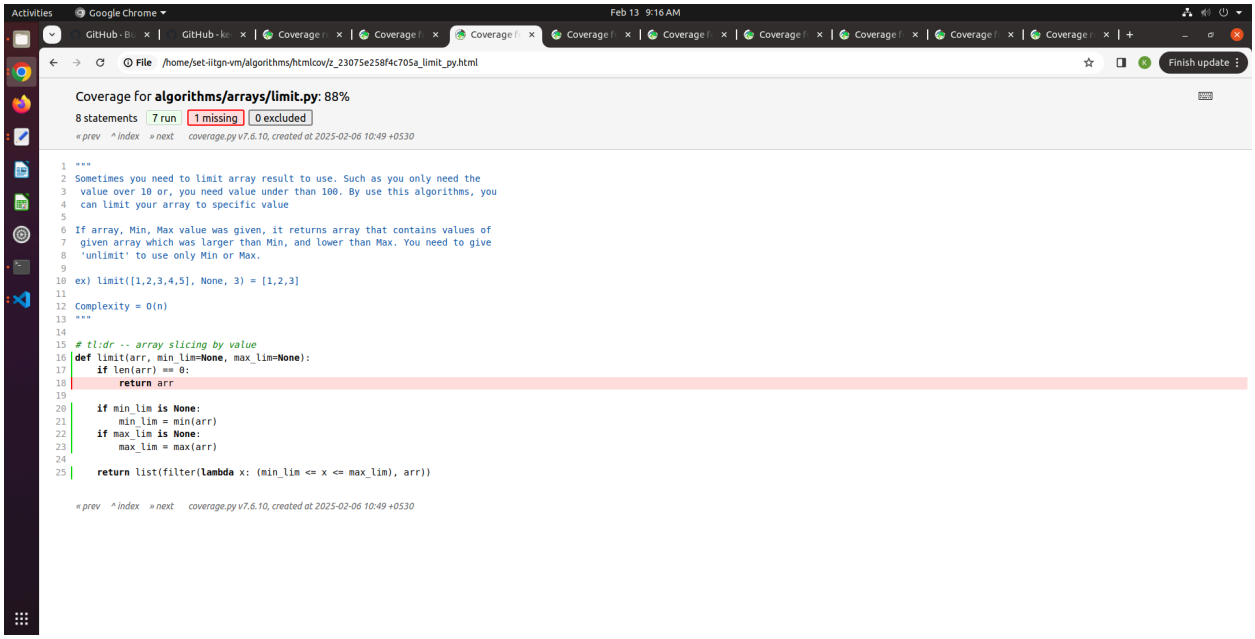

Activities
Visual Studio Code
Feb 13 9:58 AM
test_algorithms_backtrack_palindrome_partitioning.py - algorithms - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER
ALGORITHMS
algorithms
ml
queues
search
set
sort
stack
streaming
strings
tree
unionfind
unix
__init__.py
algorithms.egg-info
docs
generated_tests
__pycache__
test_algorithms_arrays_li... U
test_algorithms_backtrac... U
htmlcov
htmlcov_updated
pynguin-report
tests
__pycache__
test_array.py M
test_automata.py
test_backtrack.py
test_bfs.py
test_bit.py
test_compression.py
test_dfs.py
test_dp.py
test_graph.py
test_greedy.py
OUTLINE
TIMELINE
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
10 pytest generated_tests --cov=algorithms --cov-report=html
11 history
12 pytest generated_tests --cov=algorithms --cov-report=html
13 pytest tests --cov=algorithms --cov-report=html
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest --cov=algorithms --cov-report=html
test session starts
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, func-cov-0.2.3
collected 418 items
generated_tests/test_algorithms_arrays_limit.py .xxx [0%]
tests/test_array.py ..... [7%]
tests/test_automata.py . [7%]
tests/test_backtrack.py ..... [13%]
tests/test_bfs.py ... [14%]
tests/test_bit.py ..... [21%]
tests/test_compression.py ..... [22%]
tests/test_dfs.py ..... [24%]
tests/test_dp.py ..... [31%]
tests/test_graph.py ..... [36%]
tests/test_greedy.py . [36%]
tests/test_heap.py ..... [38%]
tests/test_histogram.py . [38%]
tests/test_iterative_segment_tree.py ..... [40%]
tests/test_linkedlist.py ..... [43%]
tests/test_map.py ..... [49%]
tests/test_maths.py ..... [61%]
tests/test_matrix.py ..... [64%]
tests/test_ml.py . [64%]
tests/test_monomial.py ..... [66%]
tests/test_polynomial.py ..... [68%]
tests/test_queues.py ..... [69%]
tests/test_search.py ..... [72%]
tests/test_set.py . [72%]
tests/test_sort.py ..... [77%]
tests/test_stack.py ..... [80%]
tests/test_streaming.py .... [81%]
tests/test_strings.py ..... [96%]
tests/test_tree.py ..... [99%]
tests/test_unix.py .... [100%]
---------- coverage: platform linux, python 3.10.11-final-0 ----------
Coverage HTML written to dir htmlcov
415 passed, 3 xfailed in 5.56s
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pynguin --project-path . --output-path ./generated_tests --module-name algorithms.backtrack.palindrome_partitionin
bash
bash
master*
Ln 1, Col 1 Spaces:4 UTF-8 LF Python


Activities
Google Chrome
Feb 13 9:59 AM
Inbox (9,423) - kushal.rai
STT_LAB5 - Google Docs
Coverage report
File /home/set-iitgn-vm/algorithms/htmlcov/index.html
Finish update
Coverage report: 69%
Files Functions Classes
coverage.py v7.6.10, created at 2025-02-13 09:31 +0530
filter...
hide covered
File ▲ statements missing excluded coverage
algorithms/arrays/delete_nth.py 15 0 0 100%
algorithms/arrays/flatten.py 14 0 0 100%
algorithms/arrays/garage.py 18 0 0 100%
algorithms/arrays/josephus.py 8 0 0 100%
algorithms/arrays/limit.py 8 0 0 100%
algorithms/arrays/longest_non_repeat.py 63 14 0 78%
algorithms/arrays/max_ones_index.py 16 0 0 100%
algorithms/arrays/merge_intervals.py 48 16 0 67%
algorithms/arrays/missing_ranges.py 12 0 0 100%
algorithms/arrays/move_zeros.py 10 0 0 100%
algorithms/arrays/n_sum.py 64 0 0 100%
algorithms/arrays/plus_one.py 30 0 0 100%
algorithms/arrays/remove_duplicates.py 6 5 0 17%
algorithms/arrays/rotate.py 28 1 0 96%
algorithms/arrays/summarize_ranges.py 14 12 0 14%
algorithms/arrays/three_sum.py 21 1 0 95%
algorithms/arrays/top_1.py 14 0 0 100%
algorithms/arrays/trimmean.py 9 0 0 100%
algorithms/arrays/two_sum.py 7 0 0 100%
algorithms/automata/dfa.py 12 1 0 92%
algorithms/backtrack/add_operators.py 20 1 0 95%
algorithms/backtrack/anagram.py 10 0 0 100%
algorithms/backtrack/array_sum_combinations.py 47 0 0 100%
algorithms/backtrack/combination_sum.py 13 0 0 100%
algorithms/backtrack/factor_combinations.py 19 0 0 100%
algorithms/backtrack/find_words.py 27 0 0 100%



algorithms/tree/bin_tree_to_list.py	28	28	0	0%
algorithms/tree/binary_tree_paths.py	13	13	0	0%
algorithms/tree/construct_tree_postorder_preorder.py	42	7	0	83%
algorithms/tree/deepest_left.py	25	25	0	0%
algorithms/tree/fenwick_tree/Fenwick_tree.py	21	0	0	100%
algorithms/tree/invert_tree.py	8	8	0	0%
algorithms/tree/is_balanced.py	12	12	0	0%
algorithms/tree/is_subtree.py	19	19	0	0%
algorithms/tree/is_symmetric.py	25	25	0	0%
algorithms/tree/longest_consecutive.py	15	15	0	0%
algorithms/tree/lowest_common_ancestor.py	8	8	0	0%
algorithms/tree/max_height.py	33	33	0	0%
algorithms/tree/max_path_sum.py	11	11	0	0%
algorithms/tree/min_height.py	40	40	0	0%
algorithms/tree/path_sum.py	35	35	0	0%
algorithms/tree/path_sum2.py	42	42	0	0%
algorithms/tree/pretty_print.py	10	10	0	0%
algorithms/tree/same_tree.py	6	6	0	0%
algorithms/tree/segment_tree/iterative_segment_tree.py	25	0	0	100%
algorithms/tree/traversal/inorder.py	40	16	0	60%
algorithms/tree/traversal/level_order.py	17	17	0	0%
algorithms/tree/traversal/postorder.py	31	4	0	87%
algorithms/tree/traversal/preorder.py	28	4	0	86%
algorithms/tree/traversal/zigzag.py	19	19	0	0%
algorithms/tree/tree.py	5	5	0	0%
algorithms/unix/path/full_path.py	3	0	0	100%
algorithms/unix/path/join_with_slash.py	6	0	0	100%
algorithms/unix/path/simplify_path.py	11	1	0	91%
algorithms/unix/path/split.py	7	0	0	100%
Total	**7994**	**2483**	**0**	**69%**

coverage.py v7.6.10, created at 2025-02-13 09:31 +0530



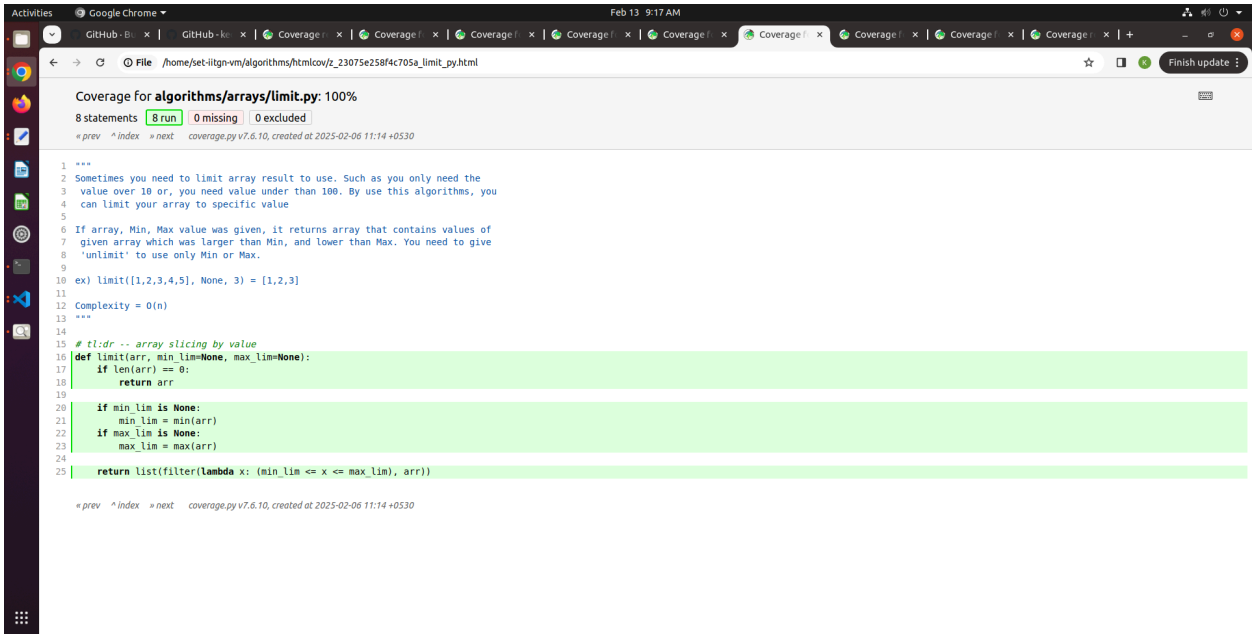
Coverage for **algorithms/arrays/limit.py**: 88%

8 statements | 7 run | 1 missing | 0 excluded

« prev ^ index » next coverage.py v7.6.10, created at 2025-02-06 10:49 +0530

```
1  """
2  Sometimes you need to limit array result to use. Such as you only need the
3   value over 10 or, you need value under than 100. By use this algorithms, you
4   can limit your array to specific value
5
6  If array, Min, Max value was given, it returns array that contains values of
7   given array which was larger than Min, and lower than Max. You need to give
8   'unlimit' to use only Min or Max.
9
10 ex) limit([1,2,3,4,5], None, 3) = [1,2,3]
11
12 Complexity = O(n)
13 """
14
15 # tl:dr -- array slicing by value
16 def limit(arr, min_lim=None, max_lim=None):
17     if len(arr) == 0:
18         return arr
19
20     if min_lim is None:
21         min_lim = min(arr)
22     if max_lim is None:
23         max_lim = max(arr)
24
25     return list(filter(lambda x: (min_lim <= x <= max_lim), arr))
```

« prev ^ index » next coverage.py v7.6.10, created at 2025-02-06 10:49 +0530


Activities
Google Chrome
Feb 13 9:17 AM
File /home/set-iitgn-vm/algorithms/htmlcov/z_23075e258f4c705a_limit_py.html
Finish update
Coverage for algorithms/arrays/limit.py: 100%
8 statements 8 run 0 missing 0 excluded
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-06 11:14 +0530
1 """
2 Sometimes you need to limit array result to use. Such as you only need the
3 value over 10 or, you need value under than 100. By use this algorithms, you
4 can limit your array to specific value
5
6 If array, Min, Max value was given, it returns array that contains values of
7 given array which was larger than Min, and lower than Max. You need to give
8 'unlimit' to use only Min or Max.
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10 ex) limit([1,2,3,4,5], None, 3) = [1,2,3]
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14
15 # tl:dr -- array slicing by value
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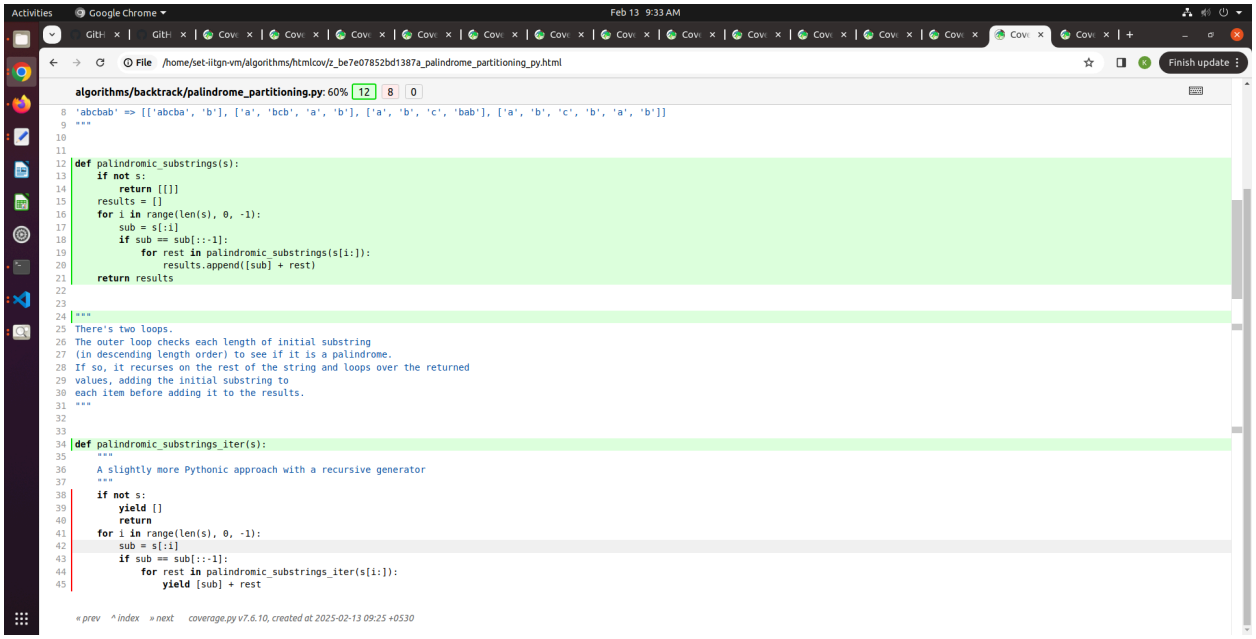
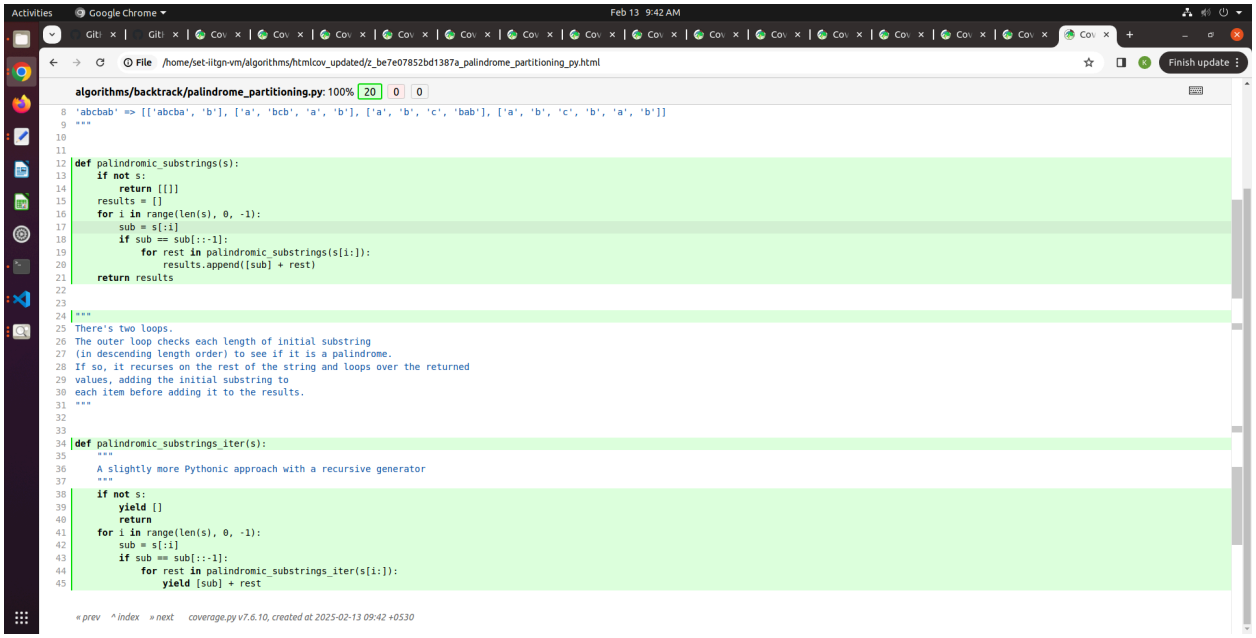
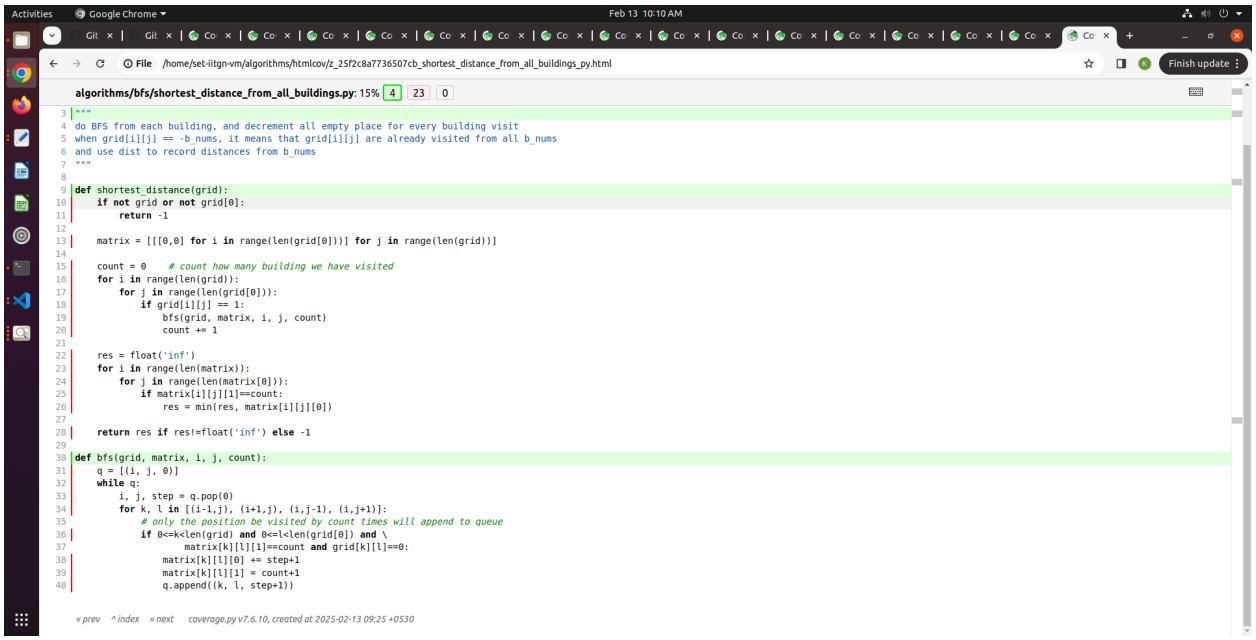
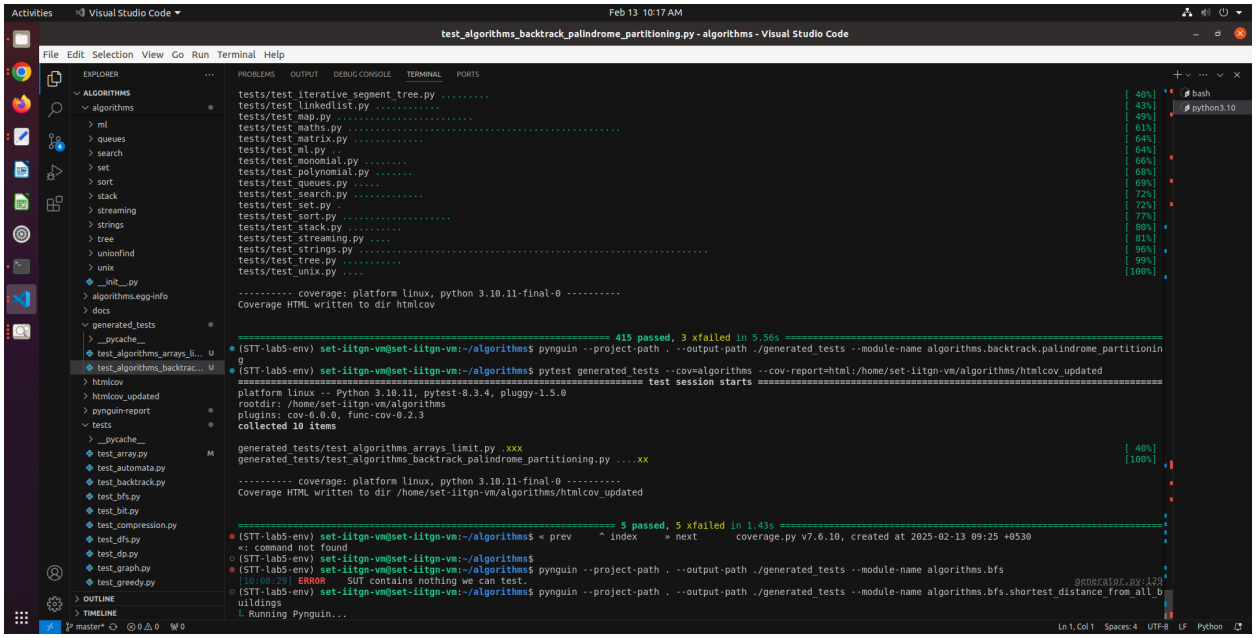
18 return arr
19
20 if min_lim is None:
21 min_lim = min(arr)
22 if max_lim is None:
23 max_lim = max(arr)
24
25 return list(filter(lambda x: (min_lim <= x <= max_lim), arr))
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-06 11:14 +0530

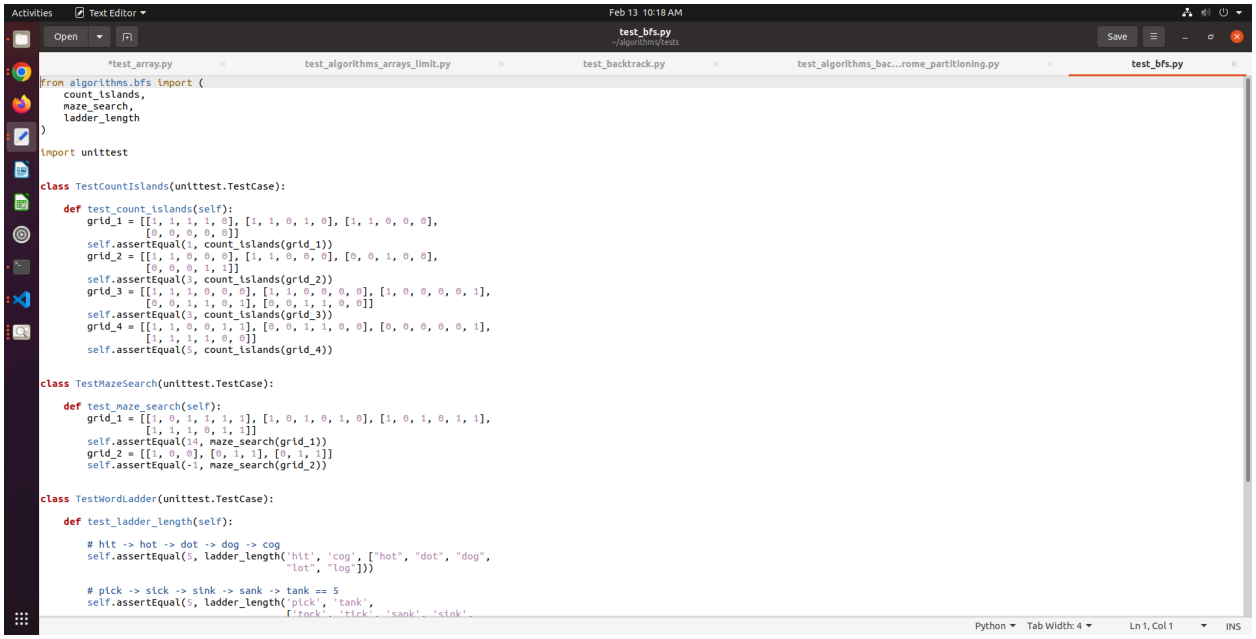
———————————


Activities
Google Chrome
Feb 13 9:33 AM
File /home/set-iitgn-vm/algorithms/htmlcov/z_be7e07852bd1387a_palindrome_partitioning_py.html
Finish update
algorithms/backtrack/palindrome_partitioning.py: 60% 12 8 0
8 'abcbab' => [['abcba', 'b'], ['a', 'bcb', 'a', 'b'], ['a', 'b', 'c', 'bab'], ['a', 'b', 'c', 'b', 'a', 'b']]
9 """
10
11
12 def palindromic_substrings(s):
13 if not s:
14 return [[]]
15 results = []
16 for i in range(len(s), 0, -1):
17 sub = s[:i]
18 if sub == sub[::-1]:
19 for rest in palindromic_substrings(s[i:]):
20 results.append([sub] + rest)
21 return results
22
23
24 """
25 There's two loops.
26 The outer loop checks each length of initial substring
27 (in descending length order) to see if it is a palindrome.
28 If so, it recurses on the rest of the string and loops over the returned
29 values, adding the initial substring to
30 each item before adding it to the results.
31 """
32
33
34 def palindromic_substrings_iter(s):
35 """
36 A slightly more Pythonic approach with a recursive generator
37 """
38 if not s:
39 yield []
40 return
41 for i in range(len(s), 0, -1):
42 sub = s[:i]
43 if sub == sub[::-1]:
44 for rest in palindromic_substrings_iter(s[i:]):
45 yield [sub] + rest
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-13 09:25 +0530


Activities
Google Chrome
Feb 13 9:42 AM
File /home/set-iitgn-vm/algorithms/htmlcov_updated/z_be7e07852bd1387a_palindrome_partitioning_py.html
Finish update
algorithms/backtrack/palindrome_partitioning.py: 100% 20 0 0
'abcbab' => [['abcba', 'b'], ['a', 'bcb', 'a', 'b'], ['a', 'b', 'c', 'bab'], ['a', 'b', 'c', 'b', 'a', 'b']]
"""
def palindromic_substrings(s):
if not s:
return [[]]
results = []
for i in range(len(s), 0, -1):
sub = s[:i]
if sub == sub[::-1]:
for rest in palindromic_substrings(s[i:]):
results.append([sub] + rest)
return results
"""
There's two loops.
The outer loop checks each length of initial substring
(in descending length order) to see if it is a palindrome.
If so, it recurses on the rest of the string and loops over the returned
values, adding the initial substring to
each item before adding it to the results.
"""
def palindromic_substrings_iter(s):
"""
A slightly more Pythonic approach with a recursive generator
"""
if not s:
yield []
return
for i in range(len(s), 0, -1):
sub = s[:i]
if sub == sub[::-1]:
for rest in palindromic_substrings_iter(s[i:]):
yield [sub] + rest
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-13 09:42 +0530


Activities
Google Chrome
Feb 13 10:10 AM
File /home/set-iitgn-vm/algorithms/htmlcov/z_25f2c8a7736507cb_shortest_distance_from_all_buildings_py.html
Finish update
algorithms/bfs/shortest_distance_from_all_buildings.py: 15% 4 23 0
"""
do BFS from each building, and decrement all empty place for every building visit
when grid[i][j] == -b_nums, it means that grid[i][j] are already visited from all b_nums
and use dist to record distances from b_nums
"""
def shortest_distance(grid):
if not grid or not grid[0]:
return -1
matrix = [[[0,0] for i in range(len(grid[0]))] for j in range(len(grid))]
count = 0 # count how many building we have visited
for i in range(len(grid)):
for j in range(len(grid[0])):
if grid[i][j] == 1:
bfs(grid, matrix, i, j, count)
count += 1
res = float('inf')
for i in range(len(matrix)):
for j in range(len(matrix[0])):
if matrix[i][j][1]==count:
res = min(res, matrix[i][j][0])
return res if res!=float('inf') else -1
def bfs(grid, matrix, i, j, count):
q = [(i, j, 0)]
while q:
i, j, step = q.pop(0)
for k, l in [(i-1,j), (i+1,j), (i,j-1), (i,j+1)]:
# only the position be visited by count times will append to queue
if 0<=k<len(grid) and 0<=l<len(grid[0]) and \
matrix[k][l][1]==count and grid[k][l]==0:
matrix[k][l][0] += step+1
matrix[k][l][1] = count+1
q.append((k, l, step+1))
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-13 09:25 +0530

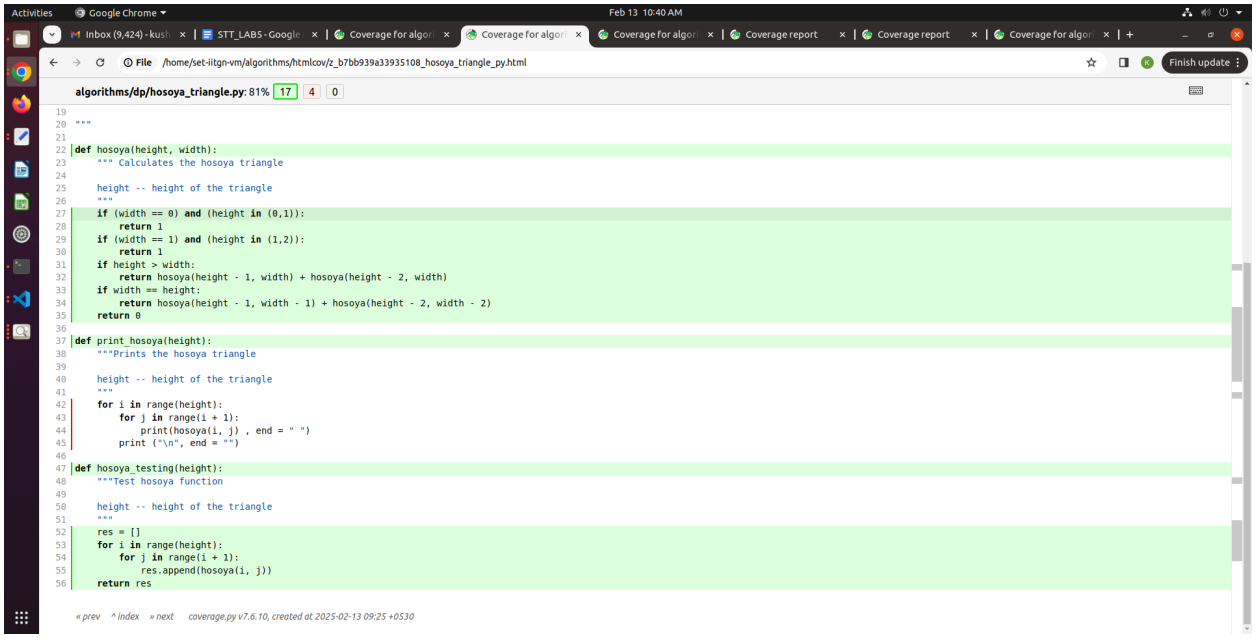


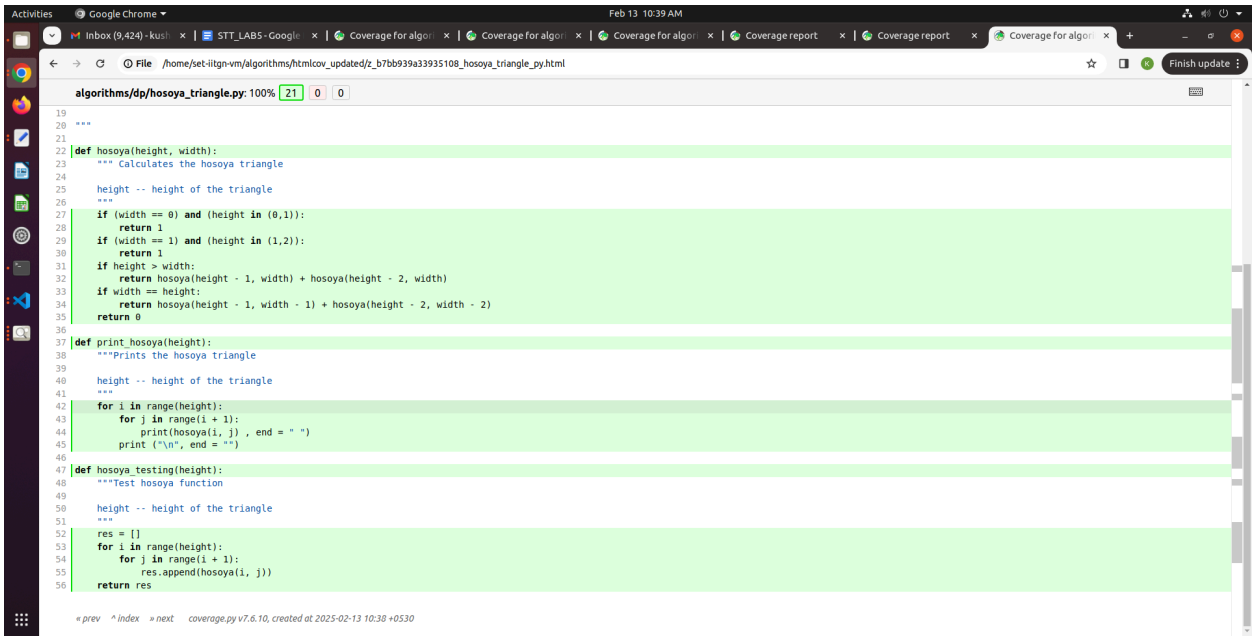


OBJ

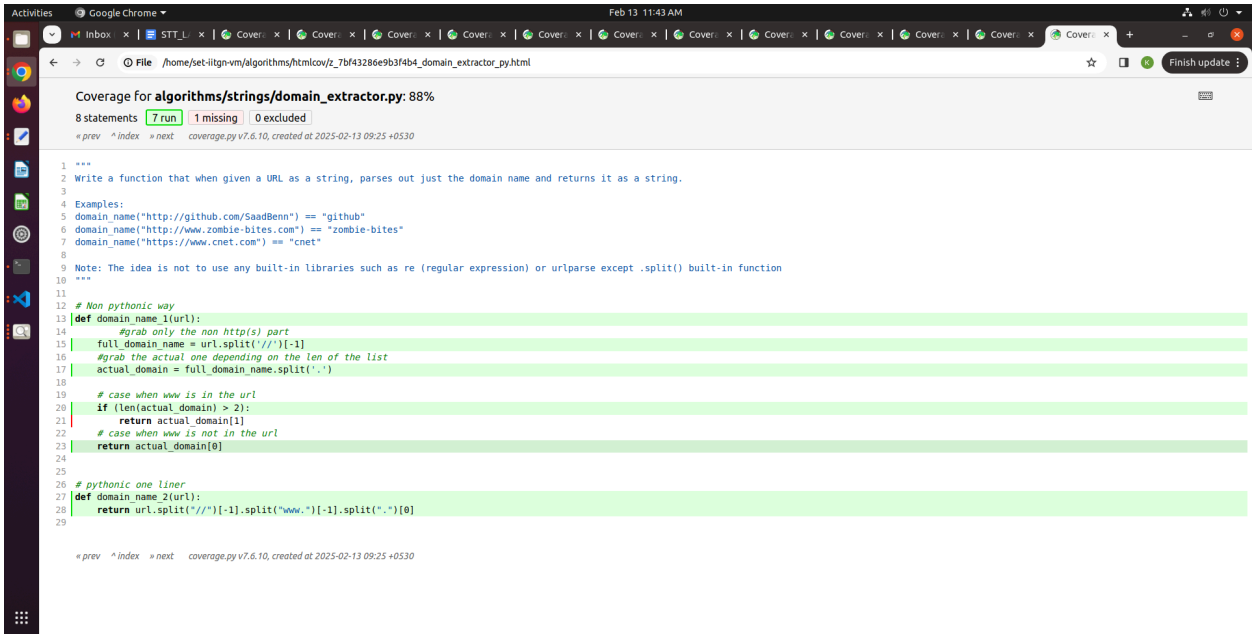
KeyboardInterrupt

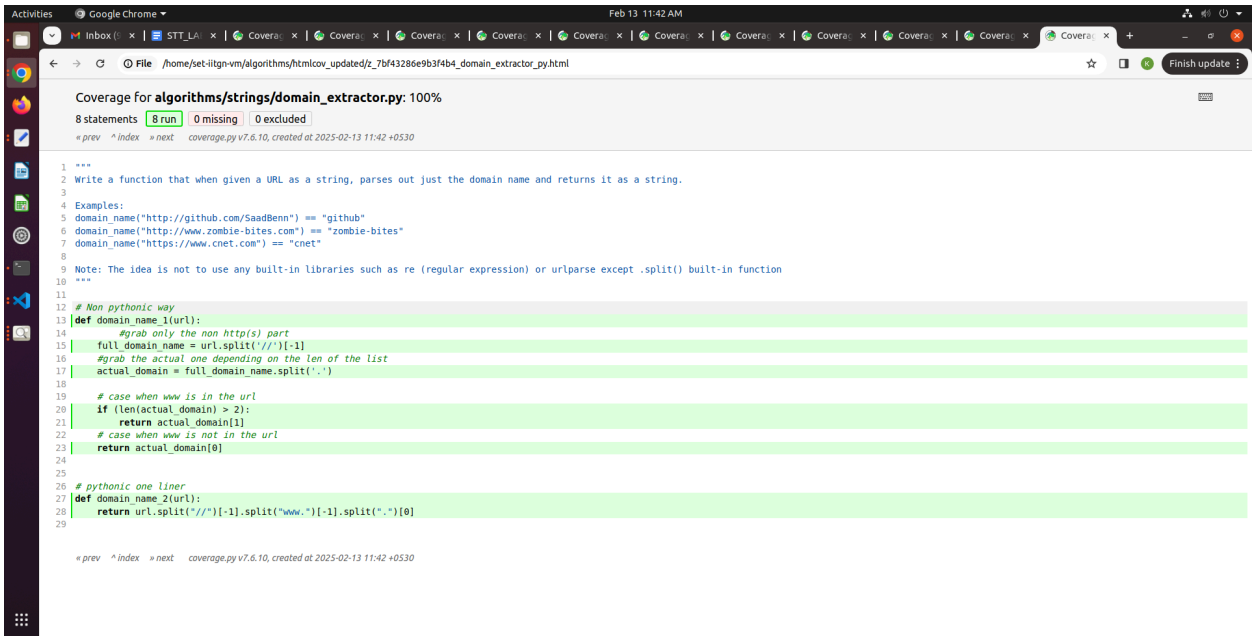
———————————————

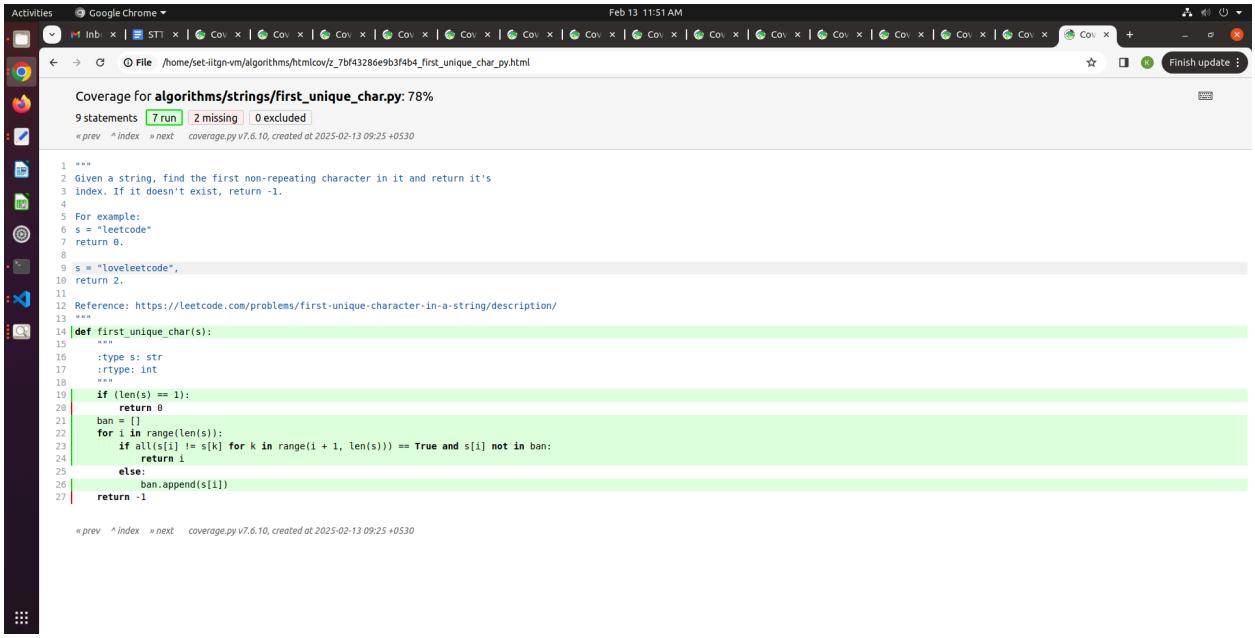

Activities
Google Chrome
Feb 13 10:40 AM
File /home/set-iitgn-vm/algorithms/htmlcov/z_b7bb939a33935108_hosoya_triangle_py.html
Finish update
algorithms/dp/hosoya_triangle.py: 81% 17 4 0
"""
def hosoya(height, width):
""" Calculates the hosoya triangle
height -- height of the triangle
"""
if (width == 0) and (height in (0,1)):
return 1
if (width == 1) and (height in (1,2)):
return 1
if height > width:
return hosoya(height - 1, width) + hosoya(height - 2, width)
if width == height:
return hosoya(height - 1, width - 1) + hosoya(height - 2, width - 2)
return 0
def print_hosoya(height):
"""Prints the hosoya triangle
height -- height of the triangle
"""
for i in range(height):
for j in range(i + 1):
print(hosoya(i, j) , end = " ")
print ("\n", end = "")
def hosoya_testing(height):
"""Test hosoya function
height -- height of the triangle
"""
res = []
for i in range(height):
for j in range(i + 1):
res.append(hosoya(i, j))
return res
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-13 09:25 +0530

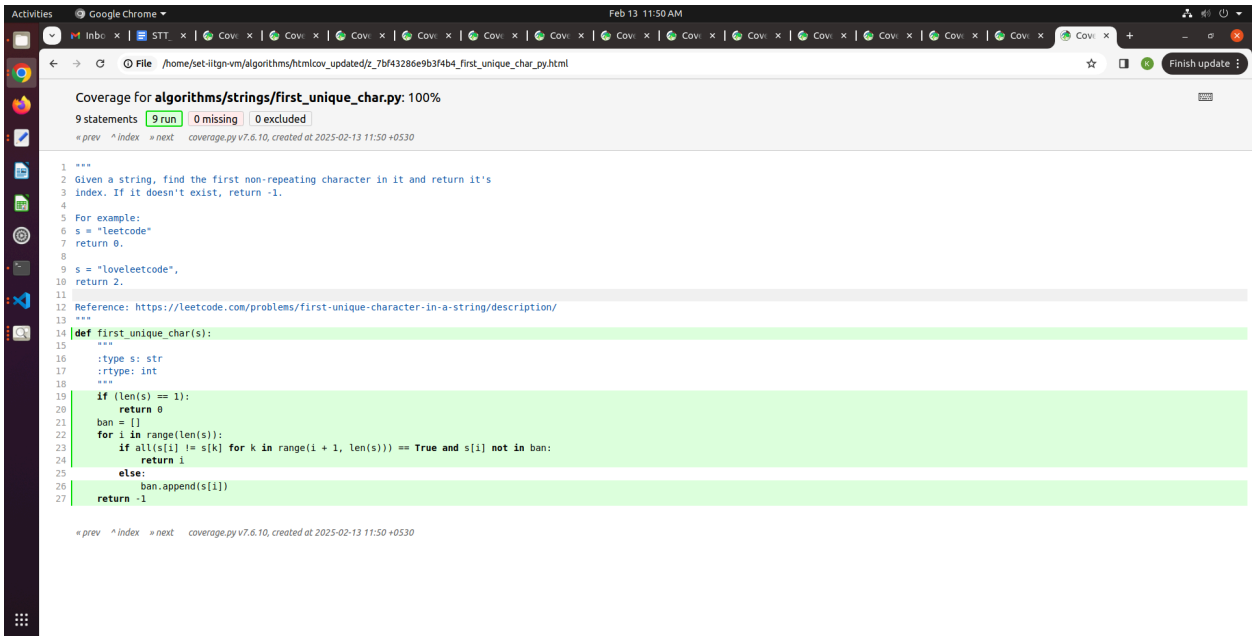

Activities
Google Chrome
Feb 13 10:39 AM
File /home/set-iitgn-vm/algorithms/htmlcov_updated/z_b7bb939a33935108_hosoya_triangle_py.html
Finish update
algorithms/dp/hosoya_triangle.py: 100% 21 0 0
"""
def hosoya(height, width):
""" Calculates the hosoya triangle
height -- height of the triangle
"""
if (width == 0) and (height in (0,1)):
return 1
if (width == 1) and (height in (1,2)):
return 1
if height > width:
return hosoya(height - 1, width) + hosoya(height - 2, width)
if width == height:
return hosoya(height - 1, width - 1) + hosoya(height - 2, width - 2)
return 0
def print_hosoya(height):
"""Prints the hosoya triangle
height -- height of the triangle
"""
for i in range(height):
for j in range(i + 1):
print(hosoya(i, j) , end = " ")
print ("\n", end = "")
def hosoya_testing(height):
"""Test hosoya function
height -- height of the triangle
"""
res = []
for i in range(height):
for j in range(i + 1):
res.append(hosoya(i, j))
return res
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-13 10:38 +0530

———————————


Activities
Google Chrome
Feb 13 11:43 AM
File /home/set-iitgn-vm/algorithms/htmlcov/z_7bf43286e9b3f4b4_domain_extractor_py.html
Finish update
Coverage for algorithms/strings/domain_extractor.py: 88%
8 statements 7 run 1 missing 0 excluded
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-13 09:25 +0530
"""
Write a function that when given a URL as a string, parses out just the domain name and returns it as a string.
Examples:
domain_name("http://github.com/SaadBenn") == "github"
domain_name("http://www.zombie-bites.com") == "zombie-bites"
domain_name("https://www.cnet.com") == "cnet"
Note: The idea is not to use any built-in libraries such as re (regular expression) or urlparse except .split() built-in function
"""
# Non pythonic way
def domain_name_1(url):
#grab only the non http(s) part
full_domain_name = url.split('//')[-1]
#grab the actual one depending on the len of the list
actual_domain = full_domain_name.split('.')
# case when www is in the url
if (len(actual_domain) > 2):
return actual_domain[1]
case when www is not in the url
return actual_domain[0]
# pythonic one liner
def domain_name_2(url):
return url.split("//")[-1].split("www.")[-1].split(".")[0]
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-13 09:25 +0530


Activities
Google Chrome
Feb 13 11:42 AM
File /home/set-iitgn-vm/algorithms/htmlcov_updated/z_7bf43286e9b3f4b4_domain_extractor_py.html
Finish update
Coverage for algorithms/strings/domain_extractor.py: 100%
8 statements 8 run 0 missing 0 excluded
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-13 11:42 +0530
"""
Write a function that when given a URL as a string, parses out just the domain name and returns it as a string.
Examples:
domain_name("http://github.com/SaadBenn") == "github"
domain_name("http://www.zombie-bites.com") == "zombie-bites"
domain_name("https://www.cnet.com") == "cnet"
Note: The idea is not to use any built-in libraries such as re (regular expression) or urlparse except .split() built-in function
"""
# Non pythonic way
def domain_name_1(url):
#grab only the non http(s) part
full_domain_name = url.split('//')[-1]
#grab the actual one depending on the len of the list
actual_domain = full_domain_name.split('.')
# case when www is in the url
if (len(actual_domain) > 2):
return actual_domain[1]
case when www is not in the url
return actual_domain[0]
# pythonic one liner
def domain_name_2(url):
return url.split("//")[-1].split("www.")[-1].split(".")[0]
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-13 11:42 +0530


Activities
Google Chrome
Feb 13 11:51 AM
File /home/set-iitgn-vm/algorithms/htmlcov/z_7bf43286e9b3f4b4_first_unique_char_py.html
Finish update
Coverage for algorithms/strings/first_unique_char.py: 78%
9 statements 7 run 2 missing 0 excluded
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-13 09:25 +0530
"""
Given a string, find the first non-repeating character in it and return it's
index. If it doesn't exist, return -1.
For example:
s = "leetcode"
return 0.
s = "loveleetcode",
return 2.
Reference: https://leetcode.com/problems/first-unique-character-in-a-string/description/
"""
def first_unique_char(s):
:type s: str
:rtype: int
if (len(s) == 1):
return 0
ban = []
for i in range(len(s)):
if all(s[i] != s[k] for k in range(i + 1, len(s))) == True and s[i] not in ban:
return i
else:
ban.append(s[i])
return -1
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-13 09:25 +0530


Activities
Google Chrome
Feb 13 11:50 AM
File /home/set-iitgn-vm/algorithms/htmlcov_updated/z_7bf43286e9b3f4b4_first_unique_char_py.html
Finish update
Coverage for algorithms/strings/first_unique_char.py: 100%
9 statements 9 run 0 missing 0 excluded
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-13 11:50 +0530
"""
Given a string, find the first non-repeating character in it and return it's
index. If it doesn't exist, return -1.
For example:
s = "leetcode"
return 0.
s = "loveleetcode",
return 2.
Reference: https://leetcode.com/problems/first-unique-character-in-a-string/description/
"""
def first_unique_char(s):
:type s: str
:rtype: int
if (len(s) == 1):
return 0
ban = []
for i in range(len(s)):
if all(s[i] != s[k] for k in range(i + 1, len(s))) == True and s[i] not in ban:
return i
else:
ban.append(s[i])
return -1
« prev ^ index » next coverage.py v7.6.10, created at 2025-02-13 11:50 +0530

Lab 6

```
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~$ pip install pytest-run-parallel --trusted-host
pypi.org --trusted-host pypi.python.org
Collecting pytest-run-parallel
  Downloading pytest_run_parallel-0.3.1-py3-none-any.whl (9.5 kB)
Requirement already satisfied: pytest>=6.2.0 in
./STT-lab5-env/lib/python3.10/site-packages (from pytest-run-parallel) (8.3.4)
Requirement already satisfied: pluggy<2,>=1.5 in
./STT-lab5-env/lib/python3.10/site-packages (from pytest>=6.2.0->pytest-run-parallel)
(1.5.0)
Requirement already satisfied: tomli>=1 in ./STT-lab5-env/lib/python3.10/site-packages
(from pytest>=6.2.0->pytest-run-parallel) (2.2.1)
Requirement already satisfied: iniconfig in ./STT-lab5-env/lib/python3.10/site-packages
(from pytest>=6.2.0->pytest-run-parallel) (2.0.0)
Requirement already satisfied: packaging in
./STT-lab5-env/lib/python3.10/site-packages (from pytest>=6.2.0->pytest-run-parallel)
(24.2)
Requirement already satisfied: exceptiongroup>=1.0.0rc8 in
./STT-lab5-env/lib/python3.10/site-packages (from pytest>=6.2.0->pytest-run-parallel)
(1.2.2)
Installing collected packages: pytest-run-parallel
Successfully installed pytest-run-parallel-0.3.1

[notice] A new release of pip is available: 23.0.1 -> 25.0.1
[notice] To update, run: pip install --upgrade pip
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~$ pip install pytest-xdist
Collecting pytest-xdist
  Downloading pytest_xdist-3.6.1-py3-none-any.whl (46 kB)
```



```
46.1/46.1 kB 289.4 kB/s eta 0:00:00
Collecting execnet>=2.1
  Downloading execnet-2.1.1-py3-none-any.whl (40 kB)
```



```
40.6/40.6 kB 246.6 kB/s eta 0:00:00
Requirement already satisfied: pytest>=7.0.0 in
./STT-lab5-env/lib/python3.10/site-packages (from pytest-xdist) (8.3.4)
Requirement already satisfied: pluggy<2,>=1.5 in
./STT-lab5-env/lib/python3.10/site-packages (from pytest>=7.0.0->pytest-xdist) (1.5.0)
```

Requirement already satisfied: exceptiongroup>=1.0.0rc8 in
./STT-lab5-env/lib/python3.10/site-packages (from pytest>=7.0.0->pytest-xdist) (1.2.2)
Requirement already satisfied: tomli>=1 in ./STT-lab5-env/lib/python3.10/site-packages
(from pytest>=7.0.0->pytest-xdist) (2.2.1)
Requirement already satisfied: packaging in
./STT-lab5-env/lib/python3.10/site-packages (from pytest>=7.0.0->pytest-xdist) (24.2)
Requirement already satisfied: iniconfig in ./STT-lab5-env/lib/python3.10/site-packages
(from pytest>=7.0.0->pytest-xdist) (2.0.0)
Installing collected packages: execnet, pytest-xdist
Successfully installed execnet-2.1.1 pytest-xdist-3.6.1

[notice] A new release of pip is available: 23.0.1 -> 25.0.1
[notice] To update, run: pip install --upgrade pip

Run 1

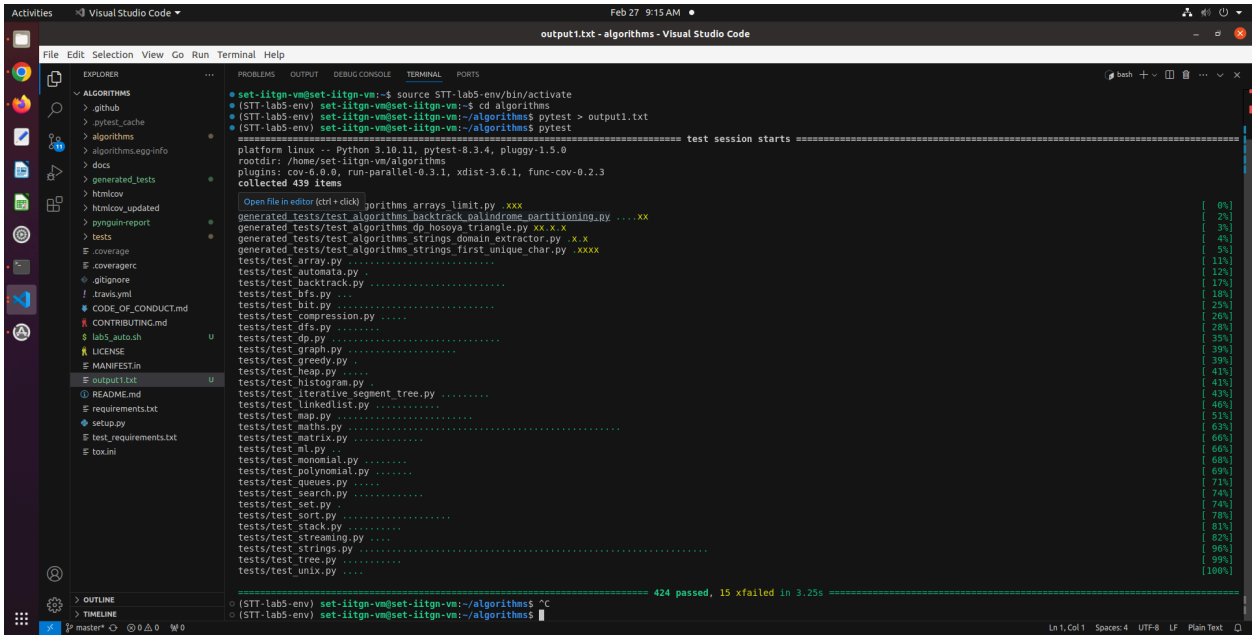
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest
==
============== test session starts
==
==============
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, run-parallel-0.3.1, xdist-3.6.1, func-cov-0.2.3
collected 439 items

generated_tests/test_algorithms_arrays_limit.py .xxx
[0%]
generated_tests/test_algorithms_backtrack_palindrome_partitioning.py xx
[2%]
generated_tests/test_algorithms_dp_hosoya_triangle.py xx.x.x
[3%]
generated_tests/test_algorithms_strings_domain_extractor.py .x.x
[4%]
generated_tests/test_algorithms_strings_first_unique_char.py .xxxx
[5%]
tests/test_array.py ....
[11%]

tests/test_automata.py .
[12%]
tests/test_backtrack.py .....
[17%]
tests/test_bfs.py ...
[18%]
tests/test_bit.py .....
[25%]
tests/test_compression.py .....
[26%]
tests/test_dfs.py .....
[28%]
tests/test_dp.py .....
[35%]
tests/test_graph.py .....
[39%]
tests/test_greedy.py .
[39%]
tests/test_heap.py .....
[41%]
tests/test_histogram.py .
[41%]
tests/test_iterative_segment_tree.py .....
[43%]
tests/test_linkedlist.py .....
[46%]
tests/test_map.py .....
[51%]
tests/test_maths.py .....
[63%]
tests/test_matrix.py .....
[66%]
tests/test_ml.py ..
[66%]
tests/test_monomial.py .....
[68%]
tests/test_polynomial.py .....
[69%]
tests/test_queues.py .....
[71%]

tests/test_search.py .....
[74%]
tests/test_set.py .
[74%]
tests/test_sort.py .....
[78%]
tests/test_stack.py .....
[81%]
tests/test_streaming.py ....
[82%]
tests/test_strings.py .....
[96%]
tests/test_tree.py .....
[99%]
tests/test_unix.py ....
[100%]

========== 424 passed, 15 xfailed in 3.25s ==========



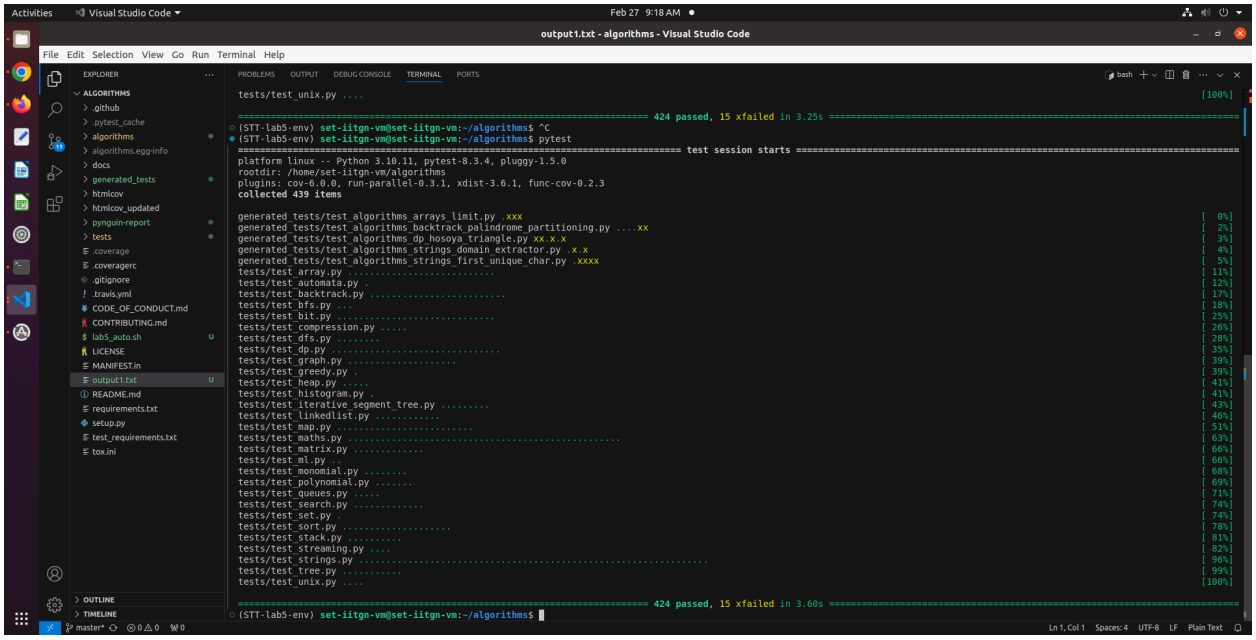
Run 2

```
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest
============================================================================= test session starts ==============================================================================
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, run-parallel-0.3.1, xdist-3.6.1, func-cov-0.2.3
collected 439 items

generated_tests/test_algorithms_arrays_limit.py .xxx
[  0%]
generated_tests/test_algorithms_backtrack_palindrome_partitioning.py ....xx
[  2%]
generated_tests/test_algorithms_dp_hosoya_triangle.py xx.x.x
[  3%]
generated_tests/test_algorithms_strings_domain_extractor.py .x.x
[  4%]
generated_tests/test_algorithms_strings_first_unique_char.py .xxxx
[  5%]
tests/test_array.py ..........................
[ 11%]
tests/test_automata.py .
[ 12%]
tests/test_backtrack.py ......................
[ 17%]
tests/test_bfs.py ...
[ 18%]
tests/test_bit.py ............................
[ 25%]
tests/test_compression.py .....
[ 26%]
tests/test_dfs.py ........
[ 28%]
tests/test_dp.py .............................
[ 35%]
tests/test_graph.py ....................
[ 39%]
tests/test_greedy.py .
[ 39%]
```

tests/test_heap.py .....
[41%]
tests/test_histogram.py .
[41%]
tests/test_iterative_segment_tree.py ....
[43%]
tests/test_linkedlist.py ....
[46%]
tests/test_map.py ....
[51%]
tests/test_maths.py ....
[63%]
tests/test_matrix.py ....
[66%]
tests/test_ml.py ..
[66%]
tests/test_monomial.py ....
[68%]
tests/test_polynomial.py ....
[69%]
tests/test_queues.py .....
[71%]
tests/test_search.py ....
[74%]
tests/test_set.py .
[74%]
tests/test_sort.py ....
[78%]
tests/test_stack.py ....
[81%]
tests/test_streaming.py ....
[82%]
tests/test_strings.py ....
[96%]
tests/test_tree.py ....
[99%]
tests/test_unix.py ....
[100%]

========== 424 passed, 15 xfailed in 3.60s ==========



Run 3

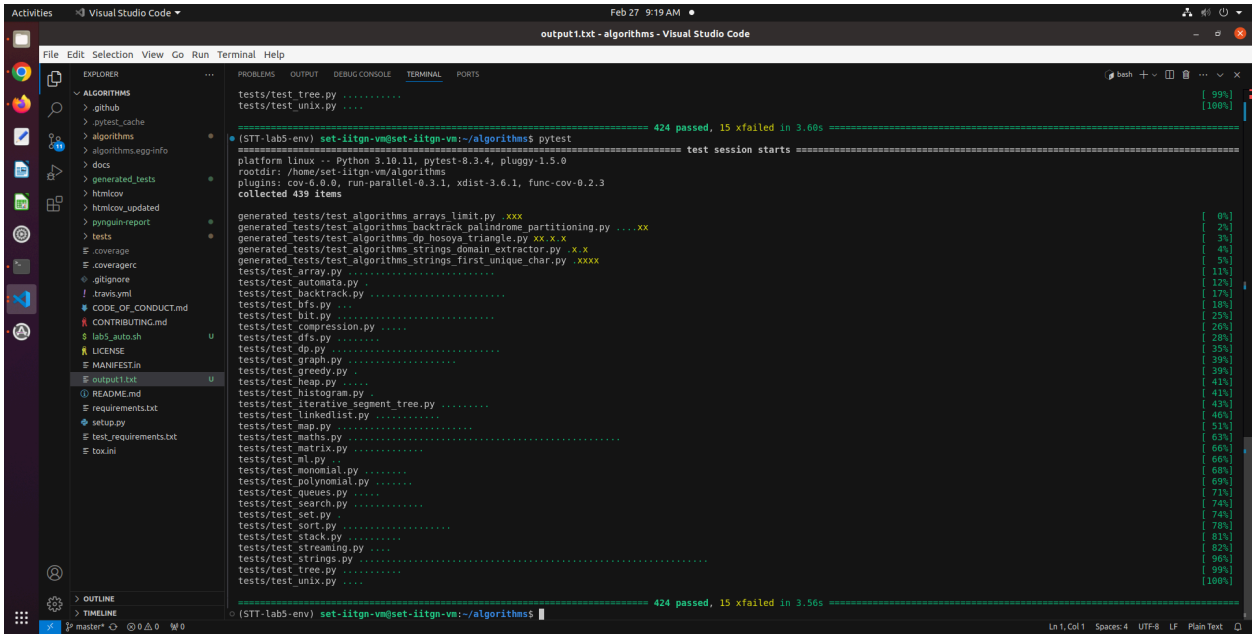
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest
========== test session starts ==========
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, run-parallel-0.3.1, xdist-3.6.1, func-cov-0.2.3
collected 439 items

generated_tests/test_algorithms_arrays_limit.py .xxx
[0%]
generated_tests/test_algorithms_backtrack_palindrome_partitioning.py xx
[2%]
generated_tests/test_algorithms_dp_hosoya_triangle.py xx.x.x
[3%]

generated_tests/test_algorithms_strings_domain_extractor.py .x.x
[4%]
generated_tests/test_algorithms_strings_first_unique_char.py .xxxx
[5%]
tests/test_array.py .....
[11%]
tests/test_automata.py .
[12%]
tests/test_backtrack.py .....
[17%]
tests/test_bfs.py ...
[18%]
tests/test_bit.py .....
[25%]
tests/test_compression.py .....
[26%]
tests/test_dfs.py .....
[28%]
tests/test_dp.py .....
[35%]
tests/test_graph.py .....
[39%]
tests/test_greedy.py .
[39%]
tests/test_heap.py .....
[41%]
tests/test_histogram.py .
[41%]
tests/test_iterative_segment_tree.py .....
[43%]
tests/test_linkedlist.py .....
[46%]
tests/test_map.py .....
[51%]
tests/test_maths.py .....
[63%]
tests/test_matrix.py .....
[66%]
tests/test_ml.py ..
[66%]

```
tests/test_monomial.py ........
[ 68%]
tests/test_polynomial.py .......
[ 69%]
tests/test_queues.py .....
[ 71%]
tests/test_search.py ..............
[ 74%]
tests/test_set.py .
[ 74%]
tests/test_sort.py ......................
[ 78%]
tests/test_stack.py ..........
[ 81%]
tests/test_streaming.py ....
[ 82%]
tests/test_strings.py ..........................................................
[ 96%]
tests/test_tree.py ............
[ 99%]
tests/test_unix.py ....
[100%]

========================================================================
========= 424 passed, 15 xfailed in 3.56s
========================================================================
=========
```



Like this run run it 10 times, the times are

3.25 + 3.60 + 3.56 + 3.43 + 3.47 + 3.62 + 3.48 + 3.52 + 3.46 + 3.45 = 34.84/10 = 3.484

(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest -n auto --dist load --parallel-threads auto
========== test session starts ==========
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, run-parallel-0.3.1, xdist-3.6.1, func-cov-0.2.3
4 workers [439 items]

.....x...x..x.....x..x..xx....x.....x....x.....x.x....
..xxFx.....F.F..... [39%]
.....F.....
..... [79%]
.....
[100%]
==========
========== FAILURES
==========
==========

_____
_____ TestSuite.test_is_palindrome
_____
_____

[gw2] linux -- Python 3.10.11 /home/set-iitgn-vm/STT-lab5-env/bin/python3.10

self = <test_linkedlist.TestSuite testMethod=test_is_palindrome>

    def test_is_palindrome(self):
>   self.assertTrue(is_palindrome(self.l))
E   AssertionError: False is not true

tests/test_linkedlist.py:167: AssertionError

_____
_____ TestBinaryHeap.test_insert
_____
_____

[gw0] linux -- Python 3.10.11 /home/set-iitgn-vm/STT-lab5-env/bin/python3.10

self = <test_heap.TestBinaryHeap testMethod=test_insert>

    def test_insert(self):
        # Before insert 2: [0, 4, 50, 7, 55, 90, 87]
        # After insert: [0, 2, 50, 4, 55, 90, 87, 7]
        self.min_heap.insert(2)
>   self.assertEqual([0, 2, 50, 4, 55, 90, 87, 7],
                         self.min_heap.heap)
E   AssertionError: Lists differ: [0, 2, 50, 4, 55, 90, 87, 7] != [0, 2, 2, 4, 50, 90, 87, 7,
55]
E

```
E       First differing element 2:
E       50
E       2
E
E       Second list contains 1 additional elements.
E       First extra element 8:
E       55
E
E       - [0, 2, 50, 4, 55, 90, 87, 7]
E       + [0, 2, 2, 4, 50, 90, 87, 7, 55]

tests/test_heap.py:29: AssertionError
_____ TestBinaryHeap.test_remove_min
_____
[gw0] linux -- Python 3.10.11 /home/set-iitgn-vm/STT-lab5-env/bin/python3.10

self = <test_heap.TestBinaryHeap testMethod=test_remove_min>

    def test_remove_min(self):
        ret = self.min_heap.remove_min()
        # Before remove_min : [0, 4, 50, 7, 55, 90, 87]
        # After remove_min: [7, 50, 87, 55, 90]
        # Test return value
>       self.assertEqual(4, ret)
E       AssertionError: 4 != 7

tests/test_heap.py:38: AssertionError
__ TestHuffmanCoding.test_huffman_coding
__
[gw3] linux -- Python 3.10.11 /home/set-iitgn-vm/STT-lab5-env/bin/python3.10

self = <test_compression.TestHuffmanCoding testMethod=test_huffman_coding>

    def test_huffman_coding(self):
        HuffmanCoding.encode_file(self.file_in_name, self.file_out_bin_name)
        HuffmanCoding.decode_file(self.file_out_bin_name, self.file_out_name)
```

```
        with open(self.file_in_name, "rb") as file_1, open(self.file_out_name, "rb") as file_2:
            content_1 = file_1.read()
            content_2 = file_2.read()

>           self.assertEqual(content_1, content_2)
E           AssertionError: b'G\xf4\xb2\xda\x9c/4?\xf8\x8b\x17B\x98Z\xe[28793
chars]qE]?' != b'\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\[33317 chars]qE]?'

tests/test_compression.py:30: AssertionError
---------------------------------------------------------------------------- Captured stdout call
----------------------------------------------------------------------------
File encoded.
File encoded.
File encoded.
File decoded.File decoded.

File encoded.
File decoded.
File decoded.
=========================================================================
========== short test summary info
=========================================================================
==========
FAILED tests/test_linkedlist.py::TestSuite::test_is_palindrome - AssertionError: False is
not true
FAILED tests/test_heap.py::TestBinaryHeap::test_insert - AssertionError: Lists differ: [0,
2, 50, 4, 55, 90, 87, 7] != [0, 2, 2, 4, 50, 90, 87, 7, 55]
FAILED tests/test_heap.py::TestBinaryHeap::test_remove_min - AssertionError: 4 != 7
FAILED tests/test_compression.py::TestHuffmanCoding::test_huffman_coding -
AssertionError: b'G\xf4\xb2\xda\x9c/4?\xf8\x8b\x17B\x98Z\xe[28793 chars]qE]?' !=
b'\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\[33317 chars]qE]?'
=========================================================================
=== 4 failed, 420 passed, 15 xfailed in 10.74s
=========================================================================
====
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ 3.4843.4843.4843.484
```

```
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest -n auto --dist load
--parallel-threads 1
============================================================================
============== test session starts
============================================================================
===============
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, run-parallel-0.3.1, xdist-3.6.1, func-cov-0.2.3
4 workers [439 items]
.............................x....x.........x........x...x.......x...x..............x.....................................
..................................... [ 39%]
.....................................................................................................................
..................................... [ 79%]
.....................................................x.x.x.xxxx.....................
[100%]
============================================================================
========= 424 passed, 15 xfailed in 3.65s
============================================================================
=========
```

```
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest -n 1 --dist load
--parallel-threads auto
============================================================================
============== test session starts
============================================================================
===============
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, run-parallel-0.3.1, xdist-3.6.1, func-cov-0.2.3
1 worker [439 items]
.xxx....xxxx.x.x.x.x.xxxx.....................................................................F.....................
..................................... [ 39%]
FF.............F.....................................................................................................
..................................... [ 79%]
```

```
.....                                                                    [100%]
=================================================================== FAILURES ===================================================================
_____ TestHuffmanCoding.test_huffman_coding _____
[gw0] linux -- Python 3.10.11 /home/set-iitgn-vm/STT-lab5-env/bin/python3.10

self = <test_compression.TestHuffmanCoding testMethod=test_huffman_coding>

    def test_huffman_coding(self):
        HuffmanCoding.encode_file(self.file_in_name, self.file_out_bin_name)
        HuffmanCoding.decode_file(self.file_out_bin_name, self.file_out_name)

        with open(self.file_in_name, "rb") as file_1, open(self.file_out_name, "rb") as file_2:
            content_1 = file_1.read()
            content_2 = file_2.read()

>           self.assertEqual(content_1, content_2)
E           AssertionError: b'G\xf4\xb2\xda\x9c/4?\xf8\x8b\x17B\x98Z\xe[28793 chars]qE]?' != b''

tests/test_compression.py:30: AssertionError
---------------------------------------------------------------------------- Captured stdout call -----------------------------------------------------------------------------
File encoded.
File encoded.
File decoded.
File encoded.
File decoded.
File encoded.
File decoded.
File decoded.
_____ TestBinaryHeap.test_insert
```

```
_____
[gw0] linux -- Python 3.10.11 /home/set-iitgn-vm/STT-lab5-env/bin/python3.10

self = <test_heap.TestBinaryHeap testMethod=test_insert>

    def test_insert(self):
        # Before insert 2: [0, 4, 50, 7, 55, 90, 87]
        # After insert:  [0, 2, 50, 4, 55, 90, 87, 7]
        self.min_heap.insert(2)
>       self.assertEqual([0, 2, 50, 4, 55, 90, 87, 7],
                         self.min_heap.heap)
E       AssertionError: Lists differ: [0, 2, 50, 4, 55, 90, 87, 7] != [0, 2, 2, 4, 50, 90, 87, 7,
55]
E
E       First differing element 2:
E       50
E       2
E
E       Second list contains 1 additional elements.
E       First extra element 8:
E       55
E
E       - [0, 2, 50, 4, 55, 90, 87, 7]
E       + [0, 2, 2, 4, 50, 90, 87, 7, 55]

tests/test_heap.py:29: AssertionError
_____ TestBinaryHeap.test_remove_min
______
[gw0] linux -- Python 3.10.11 /home/set-iitgn-vm/STT-lab5-env/bin/python3.10

self = <test_heap.TestBinaryHeap testMethod=test_remove_min>

    def test_remove_min(self):
        ret = self.min_heap.remove_min()
        # Before remove_min : [0, 4, 50, 7, 55, 90, 87]
        # After remove_min: [7, 50, 87, 55, 90]
        # Test return value
```

```
>       self.assertEqual(4, ret)
E       AssertionError: 4 != 7

tests/test_heap.py:38: AssertionError
_____ TestSuite.test_is_palindrome
_____
[gw0] linux -- Python 3.10.11 /home/set-iitgn-vm/STT-lab5-env/bin/python3.10

self = <test_linkedlist.TestSuite testMethod=test_is_palindrome>

    def test_is_palindrome(self):
>       self.assertTrue(is_palindrome(self.l))
E       AssertionError: False is not true

tests/test_linkedlist.py:167: AssertionError
========== short test summary info
==========
FAILED tests/test_compression.py::TestHuffmanCoding::test_huffman_coding -
AssertionError: b'G\xf4\xb2\xda\x9c/4?\xf8\x8b\x17B\x98Z\xe[28793 chars]qE]?' != b''
FAILED tests/test_heap.py::TestBinaryHeap::test_insert - AssertionError: Lists differ: [0,
2, 50, 4, 55, 90, 87, 7] != [0, 2, 2, 4, 50, 90, 87, 7, 55]
FAILED tests/test_heap.py::TestBinaryHeap::test_remove_min - AssertionError: 4 != 7
FAILED tests/test_linkedlist.py::TestSuite::test_is_palindrome - AssertionError: False is
not true
=== 4 failed, 420 passed, 15 xfailed in 13.30s
====
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$
_____
_____
_____

(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest -n 1 --dist load
--parallel-threads 1
```

```
============================= test session starts ==============================
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, run-parallel-0.3.1, xdist-3.6.1, func-cov-0.2.3
1 worker [439 items]
.xxx....xxxx.x.x.x.x.xxxx.....................................................................
..................................................... [ 39%]
.....................................................................................................
..................................... [ 79%]
.........................................................................
[100%]
========== 424 passed, 15 xfailed in 4.03s ==========
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$
```

After removing all the flaky test cases

```
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest -n auto --dist load
--parallel-threads auto
============================= test session starts ==============================
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, run-parallel-0.3.1, xdist-3.6.1, func-cov-0.2.3
4 workers [435 items]
.............................x..xx...........xx.x.x...x.....................................
..................................... [ 40%]
.x............x.....x.....xx...xx.............................................................
..................................... [ 80%]
.........................................................................
[100%]
======== 420 passed, 15 xfailed in 10.43s ========
```

```
==========================================================================
=========
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$
```

```
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest -n auto --dist load
--parallel-threads 1
==========================================================================
=============== test session starts
==========================================================================
===============
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, run-parallel-0.3.1, xdist-3.6.1, func-cov-0.2.3
4 workers [435 items]
.....x.....xx.....x......x.......x.x..x.....
..... [ 40%]
.....
..... [ 80%]
.....x.x...x.xxxx.....
[100%]
==========================================================================
========= 420 passed, 15 xfailed in 3.44s
==========================================================================
=========
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$
```

```
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest -n 1 --dist load
--parallel-threads 1
==========================================================================
=============== test session starts
==========================================================================
===============
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, run-parallel-0.3.1, xdist-3.6.1, func-cov-0.2.3
1 worker [435 items]
```

.xxx....xxxx.x.x.x.x.xxxx.....
..... [40%]
.....
..... [80%]
.....
[100%]
==========
========= 420 passed, 15 xfailed in 3.94s
==========
=========
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$

(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$ pytest -n 1 --dist load
--parallel-threads auto
==========
========== test session starts
==========
==========
platform linux -- Python 3.10.11, pytest-8.3.4, pluggy-1.5.0
rootdir: /home/set-iitgn-vm/algorithms
plugins: cov-6.0.0, run-parallel-0.3.1, xdist-3.6.1, func-cov-0.2.3
1 worker [435 items]
.xxx....xxxx.x.x.x.x.xxxx.....
..... [40%]
.....
..... [80%]
.....
[100%]
==========
======== 420 passed, 15 xfailed in 12.58s
==========
=========
(STT-lab5-env) set-iitgn-vm@set-iitgn-vm:~/algorithms$