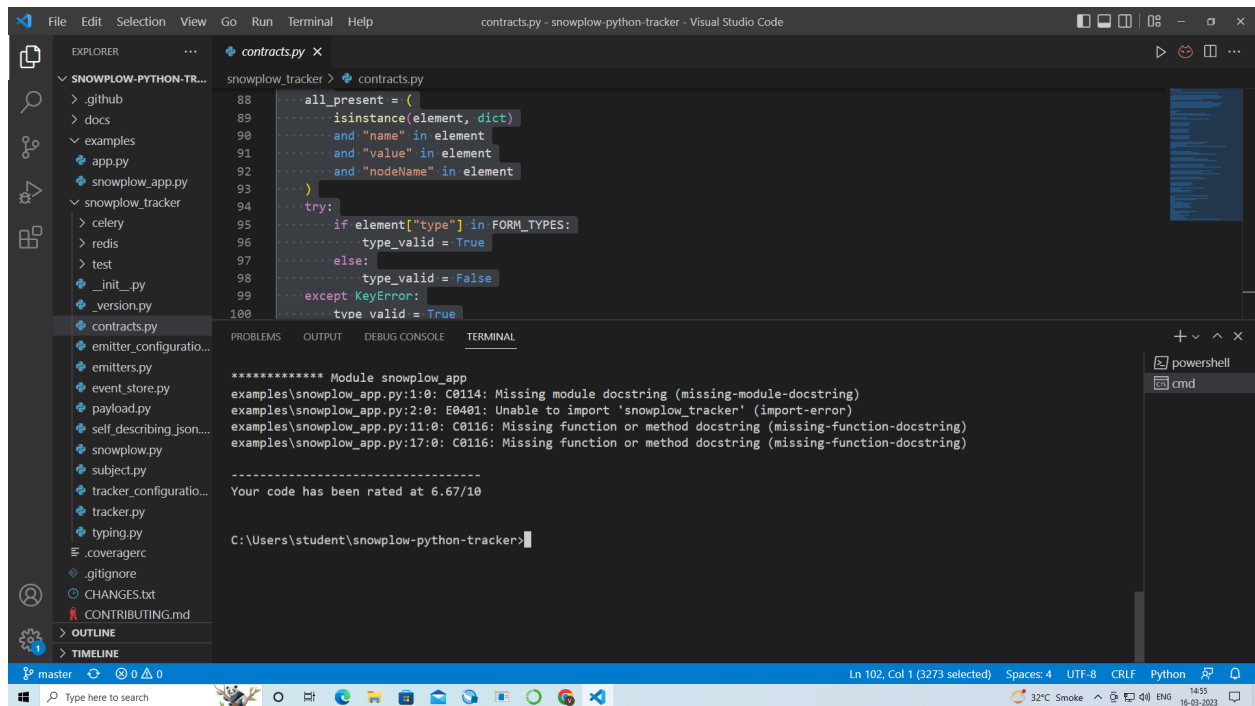


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ID : 202001174

Tool :- I have used pylint for this assignment.

1. <https://github.com/snowplow/snowplow-python-tracker/blob/master/examples/app.py>



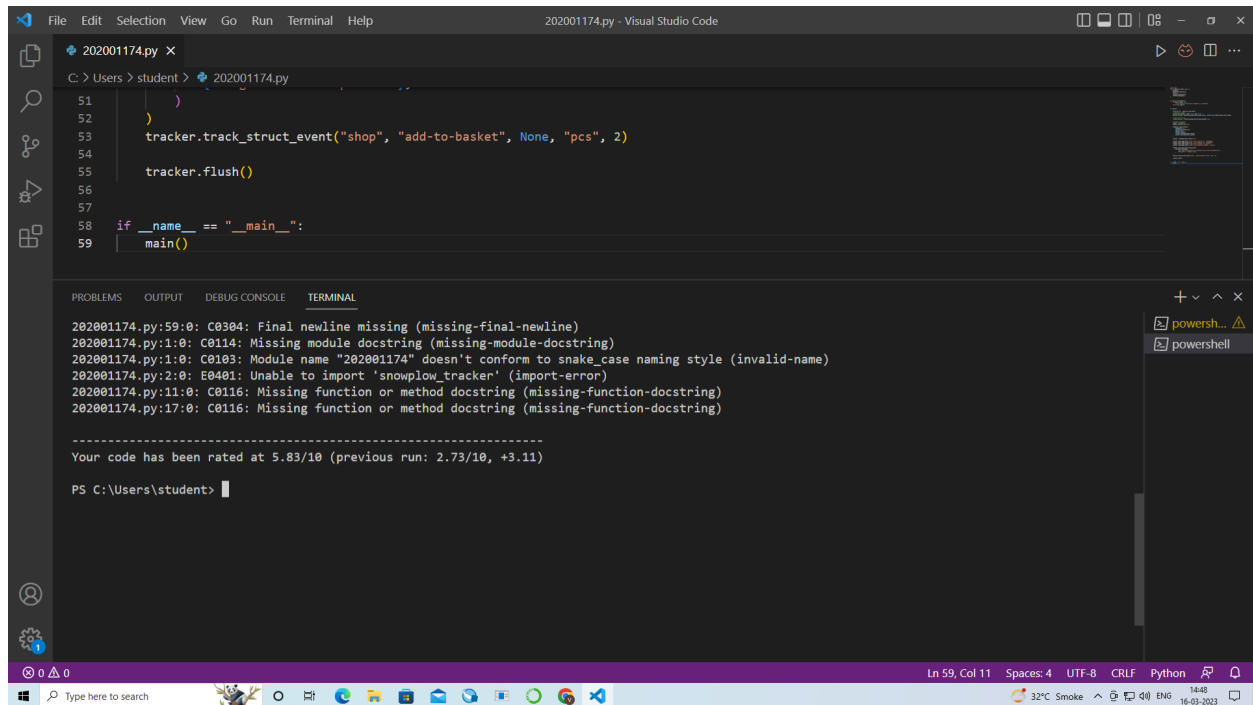
The screenshot shows the Visual Studio Code interface with a file named `contracts.py` open. The file content is as follows:

```
88 all_present = (  
89     ... and "name" in element  
90     ... and "value" in element  
91     ... and "nodeName" in element  
92 )  
93  
94 try:  
95     if element["type"] in FORM_TYPES:  
96         type_valid = True  
97     else:  
98         type_valid = False  
99 except KeyError:  
100     type_valid = True
```

The terminal window at the bottom displays the following pylint output:

```
***** Module snowplow_app  
examples\snowplow_app.py:1:0: C0114: Missing module docstring (missing-module-docstring)  
examples\snowplow_app.py:2:0: E0401: Unable to import 'snowplow_tracker' (import-error)  
examples\snowplow_app.py:11:0: C0116: Missing function or method docstring (missing-function-docstring)  
examples\snowplow_app.py:17:0: C0116: Missing function or method docstring (missing-function-docstring)  
-----  
Your code has been rated at 6.67/10  
  
C:\Users\student\snowplow-python-tracker>
```

2. https://github.com/snowplow/snowplow-python-tracker/blob/master/examples/snowplow_app.py



The screenshot shows the Visual Studio Code editor with the file `202001174.py` open. The code is as follows:

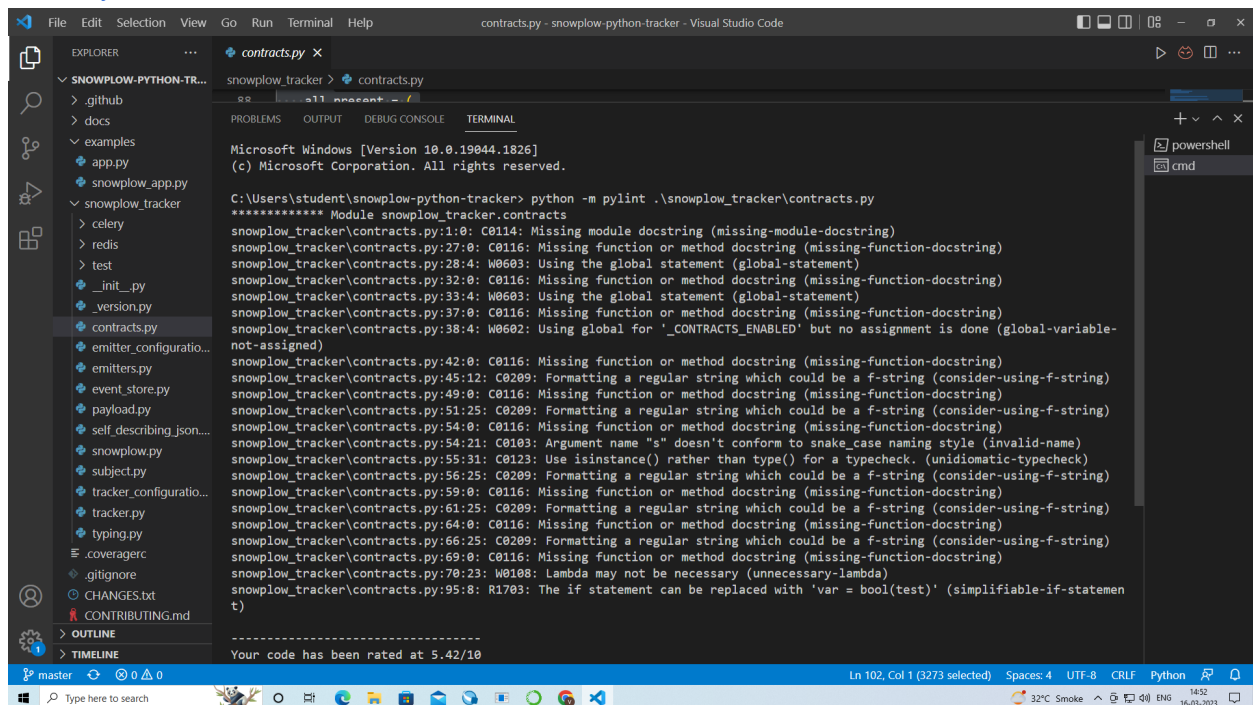
```
51 )
52 )
53 tracker.track_struct_event("shop", "add-to-basket", None, "pcs", 2)
54
55 tracker.flush()
56
57
58 if __name__ == "__main__":
59     main()
```

The TERMINAL pane at the bottom displays the following linting errors:

```
202001174.py:59:0: C0304: Final newline missing (missing-final-newline)
202001174.py:1:0: C0114: Missing module docstring (missing-module-docstring)
202001174.py:1:0: C0103: Module name "202001174" doesn't conform to snake_case naming style (invalid-name)
202001174.py:2:0: E0401: Unable to import 'snowplow_tracker' (import-error)
202001174.py:11:0: C0116: Missing function or method docstring (missing-function-docstring)
202001174.py:17:0: C0116: Missing function or method docstring (missing-function-docstring)
```

Below the errors, a message states: "Your code has been rated at 5.83/10 (previous run: 2.73/10, +3.11)". The status bar at the bottom indicates "Ln 59, Col 11", "Spaces: 4", "UTF-8", "CRLF", and "Python".

3. https://github.com/snowplow/snowplow-python-tracker/blob/master/snowplow_tracker/contracts.py



The screenshot shows the Visual Studio Code editor with the file `contracts.py` open in the `snowplow_tracker` directory. The EXPLORER pane on the left shows the project structure. The TERMINAL pane at the bottom displays the following linting errors:

```
Microsoft Windows [Version 10.0.19044.1826]
(c) Microsoft Corporation. All rights reserved.

C:\Users\student\snowplow-python-tracker> python -m pylint .\snowplow_tracker\contracts.py
***** Module snowplow_tracker.contracts
snowplow_tracker\contracts.py:1:0: C0114: Missing module docstring (missing-module-docstring)
snowplow_tracker\contracts.py:27:0: C0116: Missing function or method docstring (missing-function-docstring)
snowplow_tracker\contracts.py:28:4: W0603: Using the global statement (global-statement)
snowplow_tracker\contracts.py:32:0: C0116: Missing function or method docstring (missing-function-docstring)
snowplow_tracker\contracts.py:33:4: W0603: Using the global statement (global-statement)
snowplow_tracker\contracts.py:37:0: C0116: Missing function or method docstring (missing-function-docstring)
snowplow_tracker\contracts.py:38:4: W0602: Using global for 'CONTRACTS_ENABLED' but no assignment is done (global-variable-not-assigned)
snowplow_tracker\contracts.py:42:0: C0116: Missing function or method docstring (missing-function-docstring)
snowplow_tracker\contracts.py:45:12: C0209: Formatting a regular string which could be a f-string (consider-using-f-string)
snowplow_tracker\contracts.py:49:0: C0116: Missing function or method docstring (missing-function-docstring)
snowplow_tracker\contracts.py:51:25: C0209: Formatting a regular string which could be a f-string (consider-using-f-string)
snowplow_tracker\contracts.py:54:0: C0116: Missing function or method docstring (missing-function-docstring)
snowplow_tracker\contracts.py:54:21: C0103: Argument name "s" doesn't conform to snake_case naming style (invalid-name)
snowplow_tracker\contracts.py:55:31: C0123: Use isinstance() rather than type() for a typecheck. (unidiomatic-typecheck)
snowplow_tracker\contracts.py:56:25: C0209: Formatting a regular string which could be a f-string (consider-using-f-string)
snowplow_tracker\contracts.py:59:0: C0116: Missing function or method docstring (missing-function-docstring)
snowplow_tracker\contracts.py:61:25: C0209: Formatting a regular string which could be a f-string (consider-using-f-string)
snowplow_tracker\contracts.py:64:0: C0116: Missing function or method docstring (missing-function-docstring)
snowplow_tracker\contracts.py:66:25: C0209: Formatting a regular string which could be a f-string (consider-using-f-string)
snowplow_tracker\contracts.py:69:0: C0116: Missing function or method docstring (missing-function-docstring)
snowplow_tracker\contracts.py:70:23: W0108: Lambda may not be necessary (unnecessary-lambda)
snowplow_tracker\contracts.py:95:8: R1703: The if statement can be replaced with 'var = bool(test)' (simplifiable-if-statement)
```

Below the errors, a message states: "Your code has been rated at 5.42/10". The status bar at the bottom indicates "Ln 102, Col 1 (3273 selected)", "Spaces: 4", "UTF-8", "CRLF", and "Python".

4. https://github.com/snowplow/snowplow-python-tracker/blob/master/snowplow_tracker/event_store.py

The screenshot shows the Visual Studio Code interface with the file `event_store.py` open. The file content is as follows:

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```

The terminal shows the output of the command `python -m pylint ./snowplow_tracker/event_store.py`:

```
C:\Users\student\snowplow-python-tracker> python -m pylint ./snowplow_tracker/event_store.py
***** Module snowplow_tracker.event_store
snowplow_tracker/event_store.py:48:0: C0301: Line too long (111/100) (line-too-long)
snowplow_tracker/event_store.py:109:0: C0301: Line too long (125/100) (line-too-long)
snowplow_tracker/event_store.py:1:0: C0114: Missing module docstring (missing-module-docstring)
snowplow_tracker/event_store.py:28:4: E0213: Method should have "self" as first argument (no-self-argument)
snowplow_tracker/event_store.py:36:8: W2301: Unnecessary ellipsis constant (unnecessary-ellipsis)
snowplow_tracker/event_store.py:38:4: E0211: Method has no argument (no-method-argument)
snowplow_tracker/event_store.py:44:8: W2301: Unnecessary ellipsis constant (unnecessary-ellipsis)
snowplow_tracker/event_store.py:46:4: E0213: Method should have "self" as first argument (no-self-argument)
snowplow_tracker/event_store.py:55:8: W2301: Unnecessary ellipsis constant (unnecessary-ellipsis)
snowplow_tracker/event_store.py:57:4: E0211: Method has no argument (no-method-argument)
snowplow_tracker/event_store.py:63:8: W2301: Unnecessary ellipsis constant (unnecessary-ellipsis)
snowplow_tracker/event_store.py:83:4: W0221: Number of parameters was 1 in 'EventStore.add_event' and is now 2 in overridden 'InMemoryEventStore.add_event' method (arguments-differ)
snowplow_tracker/event_store.py:97:4: W0221: Number of parameters was 0 in 'EventStore.get_events_batch' and is now 1 in overridden 'InMemoryEventStore.get_events_batch' method (arguments-differ)
snowplow_tracker/event_store.py:107:4: W0221: Number of parameters was 2 in 'EventStore.cleanup' and is now 3 in overridden 'InMemoryEventStore.cleanup' method (arguments-differ)
snowplow_tracker/event_store.py:124:4: W0221: Number of parameters was 0 in 'EventStore.size' and is now 1 in overridden 'InMemoryEventStore.size' method (arguments-differ)
snowplow_tracker/event_store.py:20:0: C0411: standard import "from logging import Logger" should be placed before "from typing_extensions import Protocol" (wrong-import-order)

Your code has been rated at 1.58/10
```

5. https://github.com/snowplow/snowplow-python-tracker/blob/master/snowplow_tracker/tracker_configuration.py

The screenshot shows the Visual Studio Code interface with the file `tracker_configuration.py` open. The file content is as follows:

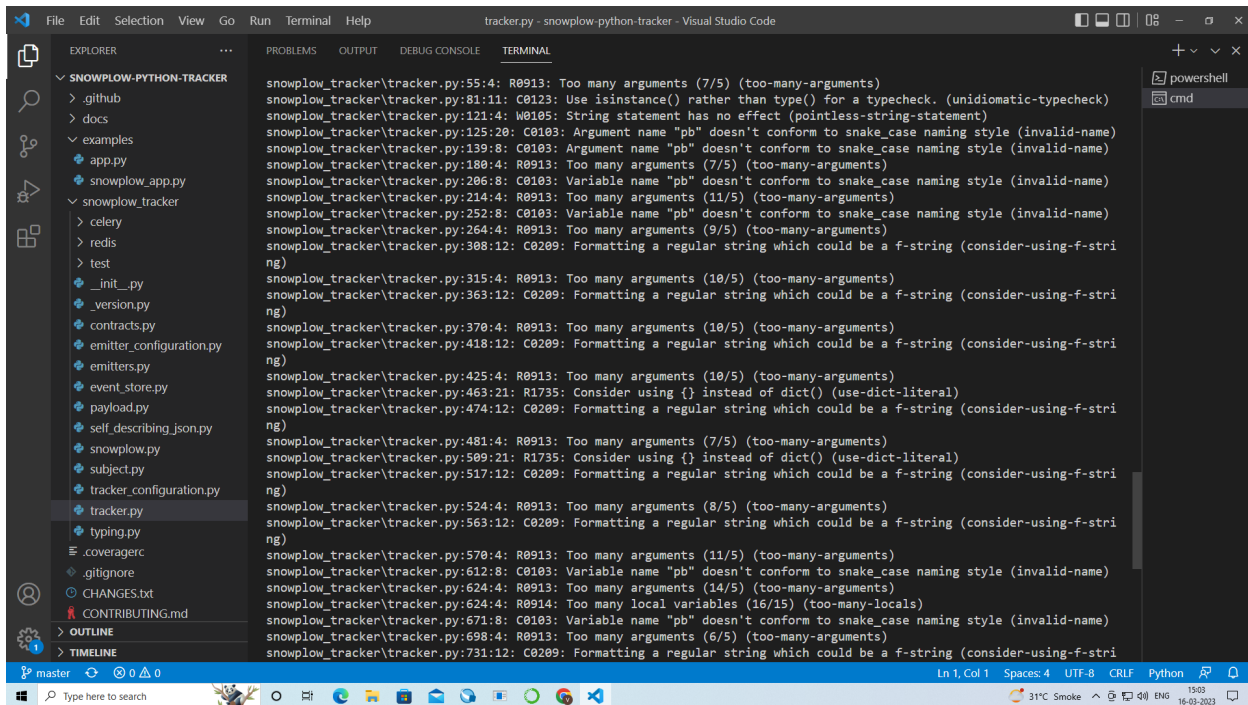
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```

The terminal shows the output of the command `python -m pylint ./snowplow_tracker/tracker_configuration.py`:

```
C:\Users\student\snowplow-python-tracker> python -m pylint ./snowplow_tracker/tracker_configuration.py
***** Module snowplow_tracker.tracker_configuration
snowplow_tracker/tracker_configuration.py:30:0: C0301: Line too long (106/100) (line-too-long)
snowplow_tracker/tracker_configuration.py:32:0: C0301: Line too long (101/100) (line-too-long)
snowplow_tracker/tracker_configuration.py:1:0: C0114: Missing module docstring (missing-module-docstring)
snowplow_tracker/tracker_configuration.py:22:0: C0115: Missing class docstring (missing-class-docstring)
snowplow_tracker/tracker_configuration.py:22:0: R0205: Class 'TrackerConfiguration' inherits from object, can be safely removed from bases in python3 (useless-object-inheritance)

Your code has been rated at 6.88/10
```

6. https://github.com/snowplow/snowplow-python-tracker/blob/master/snowplow_tracker/typing.py



Error Analysis:

- C0114: Missing module

This error can occur in Python code when an import statement is used to import a module that is not installed on the system.

- C0116: Missing function or method

This error occurs when there is no docstring for a function or method.

- W0603: Using the global

This warning is generated when a global variable is used within a function or method.

- C0209: Formatting a regular string which could be an f-string

This error occurs when a regular string is being formatted using string formatting syntax instead of using an f-string.

- R1703: The if statement can be replaced with 'var = bool(test)'

This warning is generated when an if statement is being used to convert a value to a boolean when it can be done more efficiently using the bool() function.

- W0108: Lambda may not be necessary

This warning is generated when a lambda function is being used but can be replaced with a regular function for readability and maintainability.

- W0402: Deprecated module

This warning is generated when an imported module is deprecated and will be removed in future versions of Python.

- C0411: standard import

This warning is generated when a module is being imported in a way that does not follow the standard import convention.

- W0611: Unused error imported

This warning is generated when an error type is being imported but is not used in the code.

- E0213: Method should have "self" as the first argument

This error is generated when a method does not have "self" as the first parameter. This is a convention in Python for instance methods.

- E0211: Method has no argument

This error is generated when a method is defined without any arguments. Instance methods require "self" as an argument.

- W2301: Unnecessary ellipsis constant

This warning is generated when the ellipsis constant (...) is used unnecessarily.

- C0301: Line too long

This error is generated when a line of code exceeds the maximum line length allowed by pylint.

- W0105: String statement has no effect

This warning is generated when a string statement has no effect on the code and can be removed.

- R0913: Too many arguments

This error is generated when a function or method has too many arguments, which can make the code hard to read and maintain.

-----XXX-----