

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ «ЛЬВІВСЬКА ПОЛІТЕХНІКА»

Кафедра інформаційних систем та мереж

Лабораторна робота №9

з дисципліни

СПЕЦІАЛІЗОВАНІ МОВИ ПРОГРАМУВАННЯ

на тему

СТВОРЕННЯ ТА РЕФАКТОРИНГ ПРОГРАМНО-ІНФОРМАЦІЙНОГО
ПРОДУКТУ ЗАСОБАМИ PYTHON

Виконав:

ст. гр. РІ-31

ЛАЗАР В.С.

Прийняв:

ЩЕРБАК С.С.

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Мета роботи:

Розробка програмно-інформаційного продукту засобами Python.

Хід роботи:

Завдання 1.

Створити скрипт запуску лабораторних робіт 1-8 (Runner) з єдиним меню для управління додатками використовуючи паттерн FACADE.

Завдання 2.

Зробити рефакторинг додатків, які були зроблені в лб 1-8, для підтримки можливості запуску через Runner.

Завдання 3.

Зробити рефакторинг додатків, які були зроблені в лб 1-8, використовуючи багаторівневу архітектуру додатків та всі принципи об'єктно-орієнтованого підходу.

Завдання 4.

Створити бібліотеку класів, які повторно використовуються у всіх лабораторних роботах та зробити рефакторинг додатків для підтримки цієї бібліотеки. Таких класів в бібліотеці має бути як найменш 5.

Завдання 5.

Додати логування функцій в класи бібліотеки програмного продукту використовуючи модуль logging.

Завдання 6.

Додати коментарі до програмного коду та сформувати документацію програмного продукту засобами `pydoc`. Документація має бути представлена у вигляді сторінок тексту на консолі, подана у веб-браузері та збережена у файлах

HTML.

Завдання 7.

Документація та код програмного продукту має бути розміщено в GIT репо.

Завдання 8.

Провести статичний аналіз коду продукту засобами PYLINT та виправити помилки, які були ідентифіковані. Первинний репорт з помилками додати до звіту лабораторної роботи.

Завдання 9.

Підготувати звіт до лабораторної роботи.

Первинний репорт з помилками від PYLINT:

***** Module Lab1.BLL.functions.calculate

Data\Lab1\BLL\functions\calculate.py:18:0: C0304: Final newline missing
(missing-final-newline)

Data\Lab1\BLL\functions\calculate.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab1\BLL\functions\calculate.py:1:0: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab1\BLL\functions\calculate.py:1:0: R0911: Too many return statements (8/6)
(too-many-return-statements)

***** Module Lab1.BLL.functions.perform_calculation

Data\Lab1\BLL\functions\perform_calculation.py:26:0: C0304: Final newline missing
(missing-final-newline)

Data\Lab1\BLL\functions\perform_calculation.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab1\BLL\functions\perform_calculation.py:8:0: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab1\BLL\functions\perform_calculation.py:4:0: C0412: Imports from package Data are not grouped (ungrouped-imports)

***** Module Lab1.UI.classes.console

Data\Lab1\UI\classes\console.py:42:0: C0304: Final newline missing (missing-final-newline)

Data\Lab1\UI\classes\console.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Lab1\UI\classes\console.py:10:0: C0115: Missing class docstring (missing-class-docstring)

Data\Lab1\UI\classes\console.py:15:36: E1101: Super of 'Console' has no '__call__' member (no-member)

Data\Lab1\UI\classes\console.py:15:36: R1725: Consider using Python 3 style super() without arguments (super-with-arguments)

Data\Lab1\UI\classes\console.py:24:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab1\UI\classes\console.py:41:19: W0718: Catching too general exception Exception (broad-exception-caught)

Data\Lab1\UI\classes\console.py:4:0: C0411: standard import "logging" should be placed before first party imports "Data.Shared.classes.history.History", "Data.Lab1.UI.functions.calculator_settings", "Data.Lab1.BLL.functions.perform_calculation" (wrong-import-order)

***** Module Lab1.UI.functions.calculator_result

Data\Lab1\UI\functions\calculator_result.py:18:0: C0304: Final newline missing (missing-final-newline)

Data\Lab1\UI\functions\calculator_result.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Lab1\UI\functions\calculator_result.py:9:0: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab1\UI\functions\calculator_result.py:10:4: R1705: Unnecessary "else" after "return", remove the "else" and de-indent the code inside it (no-else-return)

Data\Lab1\UI\functions\calculator_result.py:3:0: C0411: standard import "logging" should be placed before first party imports "global_variables", "Data.Lab1.BLL.functions.calculate" (wrong-import-order)

***** Module Lab1.UI.functions.calculator_settings

Data\Lab1\UI\functions\calculator_settings.py:6:0: C0301: Line too long (117/100) (line-too-long)

Data\Lab1\UI\functions\calculator_settings.py:17:0: C0304: Final newline missing (missing-final-newline)

Data\Lab1\UI\functions\calculator_settings.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab1\UI\functions\calculator_settings.py:5:0: C0116: Missing function or method docstring
(missing-function-docstring)

***** Module Lab1.UI.functions.change_digits

Data\Lab1\UI\functions\change_digits.py:17:0: C0304: Final newline missing
(missing-final-newline)

Data\Lab1\UI\functions\change_digits.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab1\UI\functions\change_digits.py:8:0: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab1\UI\functions\change_digits.py:12:8: R1723: Unnecessary "else" after "break", remove
the "else" and de-indent the code inside it (no-else-break)

Data\Lab1\UI\functions\change_digits.py:2:0: C0411: standard import "logging" should be
placed before first party import "Data.Shared.classes.validators.Validators"
(wrong-import-order)

***** Module Lab1.UI.functions.num_prompt

Data\Lab1\UI\functions\num_prompt.py:8:0: C0304: Final newline missing
(missing-final-newline)

Data\Lab1\UI\functions\num_prompt.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab1\UI\functions\num_prompt.py:1:0: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab1\UI\functions\num_prompt.py:1:0: R1710: Either all return statements in a function
should return an expression, or none of them should. (inconsistent-return-statements)

***** Module Lab1.UI.functions.try_again

Data\Lab1\UI\functions\try_again.py:6:0: C0301: Line too long (116/100) (line-too-long)

Data\Lab1\UI\functions\try_again.py:12:0: C0304: Final newline missing
(missing-final-newline)

Data\Lab1\UI\functions\try_again.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab1\UI\functions\try_again.py:5:0: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab1\UI\functions\try_again.py:5:0: R1710: Either all return statements in a function
should return an expression, or none of them should. (inconsistent-return-statements)

***** Module Lab2.BLL.classes.calculator

Data\Lab2\BLL\classes\calculator.py:31:0: C0304: Final newline missing
(missing-final-newline)

Data\Lab2\BLL\classes\calculator.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab2\BLL\classes\calculator.py:4:0: C0115: Missing class docstring
(missing-class-docstring)

Data\Lab2\BLL\classes\calculator.py:14:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab2\BLL\classes\calculator.py:14:4: R0911: Too many return statements (8/6)
(too-many-return-statements)

Data\Lab2\BLL\classes\calculator.py:4:0: R0903: Too few public methods (1/2)
(too-few-public-methods)

***** Module Lab2.UI.classes.console

Data\Lab2\UI\classes\console.py:80:0: C0301: Line too long (104/100) (line-too-long)

Data\Lab2\UI\classes\console.py:99:0: C0304: Final newline missing (missing-final-newline)

Data\Lab2\UI\classes\console.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab2\UI\classes\console.py:12:0: C0115: Missing class docstring (missing-class-docstring)

Data\Lab2\UI\classes\console.py:17:36: E1101: Super of 'Console' has no '__call__' member
(no-member)

Data\Lab2\UI\classes\console.py:17:36: R1725: Consider using Python 3 style super() without
arguments (super-with-arguments)

Data\Lab2\UI\classes\console.py:26:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab2\UI\classes\console.py:47:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab2\UI\classes\console.py:47:4: R1710: Either all return statements in a function should
return an expression, or none of them should. (inconsistent-return-statements)

Data\Lab2\UI\classes\console.py:79:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab2\UI\classes\console.py:89:20: R1723: Unnecessary "else" after "break", remove the
"else" and de-indent the code inside it (no-else-break)

Data\Lab2\UI\classes\console.py:4:0: C0411: standard import "logging" should be placed before
first party imports "Data.Lab2.BLL.classes.calculator.Calculator",

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"Data.Shared.classes.history.History",                "Data.Shared.classes.validators.Validators"
(wrong-import-order)
***** Module Lab3.BLL.classes.ascii
Data\Lab3\BLL\classes\ascii.py:35:0: C0301: Line too long (110/100) (line-too-long)
Data\Lab3\BLL\classes\ascii.py:36:0: C0304: Final newline missing (missing-final-newline)
Data\Lab3\BLL\classes\ascii.py:1:0: C0114: Missing module docstring
(missing-module-docstring)
Data\Lab3\BLL\classes\ascii.py:5:0: E0401: Unable to import 'pyfiglet' (import-error)
Data\Lab3\BLL\classes\ascii.py:8:0: C0115: Missing class docstring (missing-class-docstring)
Data\Lab3\BLL\classes\ascii.py:10:4: C0116: Missing function or method docstring
(missing-function-docstring)
Data\Lab3\BLL\classes\ascii.py:22:4: C0116: Missing function or method docstring
(missing-function-docstring)
Data\Lab3\BLL\classes\ascii.py:5:0: C0411: third party import "pyfiglet.figlet_format" should be
placed before first party import "global_variables" (wrong-import-order)
***** Module Lab3.UI.classes.console
Data\Lab3\UI\classes\console.py:67:0: C0301: Line too long (116/100) (line-too-long)
Data\Lab3\UI\classes\console.py:90:0: C0301: Line too long (124/100) (line-too-long)
Data\Lab3\UI\classes\console.py:97:0: C0301: Line too long (115/100) (line-too-long)
Data\Lab3\UI\classes\console.py:103:0: C0301: Line too long (109/100) (line-too-long)
Data\Lab3\UI\classes\console.py:167:0: C0304: Final newline missing (missing-final-newline)
Data\Lab3\UI\classes\console.py:1:0: C0114: Missing module docstring
(missing-module-docstring)
Data\Lab3\UI\classes\console.py:5:0: E0401: Unable to import 'pyfiglet' (import-error)
Data\Lab3\UI\classes\console.py:13:0: C0115: Missing class docstring (missing-class-docstring)
Data\Lab3\UI\classes\console.py:18:36: E1101: Super of 'Console' has no '__call__' member
(no-member)
Data\Lab3\UI\classes\console.py:18:36: R1725: Consider using Python 3 style super() without
arguments (super-with-arguments)
Data\Lab3\UI\classes\console.py:27:4: C0116: Missing function or method docstring
(missing-function-docstring)
Data\Lab3\UI\classes\console.py:59:4: C0116: Missing function or method docstring
(missing-function-docstring)
Data\Lab3\UI\classes\console.py:70:4: C0116: Missing function or method docstring
(missing-function-docstring)

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Data\Lab3\UI\classes\console.py:79:12: R1724: Unnecessary "elif" after "continue", remove the leading "el" from "elif" (no-else-continue)

Data\Lab3\UI\classes\console.py:88:24: E0602: Undefined variable 'file_upload' (undefined-variable)

Data\Lab3\UI\classes\console.py:95:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab3\UI\classes\console.py:111:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab3\UI\classes\console.py:136:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab3\UI\classes\console.py:5:0: C0411: third party import "pyfiglet.FigletFont" should be placed before first party imports "global_variables", "Data.Lab3.BLL.classes.ascii.Ascii" (wrong-import-order)

Data\Lab3\UI\classes\console.py:7:0: C0411: standard import "logging" should be placed before third party import "pyfiglet.FigletFont" and first party imports "global_variables", "Data.Lab3.BLL.classes.ascii.Ascii", "Data.Shared.classes.data_io.DataIO" (wrong-import-order)

Data\Lab3\UI\classes\console.py:6:0: C0412: Imports from package Data are not grouped (ungrouped-imports)

***** Module Lab4.BLL.classes.ascii

Data\Lab4\BLL\classes\ascii.py:8:0: C0301: Line too long (135/100) (line-too-long)

Data\Lab4\BLL\classes\ascii.py:37:0: C0301: Line too long (105/100) (line-too-long)

Data\Lab4\BLL\classes\ascii.py:94:0: C0304: Final newline missing (missing-final-newline)

Data\Lab4\BLL\classes\ascii.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Lab4\BLL\classes\ascii.py:7:0: C0115: Missing class docstring (missing-class-docstring)

Data\Lab4\BLL\classes\ascii.py:7:0: R0902: Too many instance attributes (10/7) (too-many-instance-attributes)

Data\Lab4\BLL\classes\ascii.py:8:4: R0913: Too many arguments (9/5) (too-many-arguments)

Data\Lab4\BLL\classes\ascii.py:8:4: R0917: Too many positional arguments (9/5) (too-many-positional-arguments)

Data\Lab4\BLL\classes\ascii.py:20:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab4\BLL\classes\ascii.py:48:4: R0914: Too many local variables (17/15) (too-many-locals)

Data\Lab4\BLL\classes\ascii.py:86:13: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)

Data\Lab4\BLL\classes\ascii.py:7:0: R0903: Too few public methods (1/2) (too-few-public-methods)

***** Module Lab4.UI.classes.console

Data\Lab4\UI\classes\console.py:42:0: C0301: Line too long (116/100) (line-too-long)

Data\Lab4\UI\classes\console.py:82:0: C0304: Final newline missing (missing-final-newline)

Data\Lab4\UI\classes\console.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Lab4\UI\classes\console.py:6:0: C0115: Missing class docstring (missing-class-docstring)

Data\Lab4\UI\classes\console.py:11:36: E1101: Super of 'Console' has no '__call__' member (no-member)

Data\Lab4\UI\classes\console.py:11:36: R1725: Consider using Python 3 style super() without arguments (super-with-arguments)

Data\Lab4\UI\classes\console.py:33:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab4\UI\classes\console.py:44:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab4\UI\classes\console.py:52:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab4\UI\classes\console.py:62:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab4\UI\classes\console.py:76:4: C0116: Missing function or method docstring (missing-function-docstring)

***** Module Lab5.BLL.classes.cube

Data\Lab5\BLL\classes\cube.py:38:0: C0304: Final newline missing (missing-final-newline)

Data\Lab5\BLL\classes\cube.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Lab5\BLL\classes\cube.py:4:0: C0115: Missing class docstring (missing-class-docstring)

Data\Lab5\BLL\classes\cube.py:13:4: R0914: Too many local variables (19/15) (too-many-locals)

Data\Lab5\BLL\classes\cube.py:28:16: W0612: Unused variable 'j' (unused-variable)

Data\Lab5\BLL\classes\cube.py:30:20: W0612: Unused variable 'k' (unused-variable)

***** Module Lab5.BLL.classes.pyramid

Data\Lab5\BLL\classes\pyramid.py:43:0: C0304: Final newline missing (missing-final-newline)

Data\Lab5\BLL\classes\pyramid.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab5\BLL\classes\pyramid.py:4:0: C0115: Missing class docstring
(missing-class-docstring)

***** Module Lab5.BLL.classes.shape

Data\Lab5\BLL\classes\shape.py:69:0: C0304: Final newline missing (missing-final-newline)

Data\Lab5\BLL\classes\shape.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab5\BLL\classes\shape.py:5:0: C0115: Missing class docstring (missing-class-docstring)

Data\Lab5\BLL\classes\shape.py:27:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab5\BLL\classes\shape.py:31:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab5\BLL\classes\shape.py:35:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab5\BLL\classes\shape.py:39:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab5\BLL\classes\shape.py:45:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab5\BLL\classes\shape.py:56:16: W0106: Expression "shape.append(empty_layer) if
self.pos_z > 0 else shape.insert(0, empty_layer)" is assigned to nothing (expression-not-assigned)

Data\Lab5\BLL\classes\shape.py:62:20: W0106: Expression "shape[i].append(empty_row) if
self.pos_y > 0 else shape[i].insert(0, empty_row)" is assigned to nothing
(expression-not-assigned)

Data\Lab5\BLL\classes\shape.py:68:24: W0106: Expression "shape[i][j].append(' ') if self.pos_x
< 0 else shape[i][j].insert(0, ' ')" is assigned to nothing (expression-not-assigned)

***** Module Lab5.BLL.classes.sphere

Data\Lab5\BLL\classes\sphere.py:40:0: C0301: Line too long (119/100) (line-too-long)

Data\Lab5\BLL\classes\sphere.py:69:0: C0304: Final newline missing (missing-final-newline)

Data\Lab5\BLL\classes\sphere.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab5\BLL\classes\sphere.py:4:0: C0115: Missing class docstring (missing-class-docstring)

Data\Lab5\BLL\classes\sphere.py:23:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab5\BLL\classes\sphere.py:37:4: C0116: Missing function or method docstring (missing-function-docstring)

***** Module Lab5.UI.classes.console

Data\Lab5\UI\classes\console.py:107:0: C0304: Final newline missing (missing-final-newline)

Data\Lab5\UI\classes\console.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Lab5\UI\classes\console.py:8:0: C0115: Missing class docstring (missing-class-docstring)

Data\Lab5\UI\classes\console.py:13:36: E1101: Super of 'Console' has no '__call__' member (no-member)

Data\Lab5\UI\classes\console.py:13:36: R1725: Consider using Python 3 style super() without arguments (super-with-arguments)

Data\Lab5\UI\classes\console.py:36:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab5\UI\classes\console.py:58:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab5\UI\classes\console.py:68:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab5\UI\classes\console.py:90:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab5\UI\classes\console.py:2:0: C0411: standard import "logging" should be placed before first party import "Data.Shared.classes.validators.Validators" (wrong-import-order)

***** Module Lab6.BLL.classes.calculator

Data\Lab6\BLL\classes\calculator.py:40:0: C0304: Final newline missing (missing-final-newline)

Data\Lab6\BLL\classes\calculator.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Lab6\BLL\classes\calculator.py:5:0: C0115: Missing class docstring (missing-class-docstring)

Data\Lab6\BLL\classes\calculator.py:16:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab6\BLL\classes\calculator.py:16:4: R0911: Too many return statements (7/6) (too-many-return-statements)

Data\Lab6\BLL\classes\calculator.py:5:0: R0903: Too few public methods (1/2) (too-few-public-methods)

***** Module Lab6.UI.classes.console

Data\Lab6\UI\classes\console.py:88:0: C0301: Line too long (104/100) (line-too-long)

Data\Lab6\UI\classes\console.py:94:0: C0301: Line too long (117/100) (line-too-long)

Data\Lab6\UI\classes\console.py:105:0: C0304: Final newline missing (missing-final-newline)

Data\Lab6\UI\classes\console.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Lab6\UI\classes\console.py:13:0: C0115: Missing class docstring (missing-class-docstring)

Data\Lab6\UI\classes\console.py:18:36: E1101: Super of 'Console' has no '__call__' member (no-member)

Data\Lab6\UI\classes\console.py:18:36: R1725: Consider using Python 3 style super() without arguments (super-with-arguments)

Data\Lab6\UI\classes\console.py:27:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab6\UI\classes\console.py:54:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab6\UI\classes\console.py:54:4: R1711: Useless return at end of function or method (useless-return)

Data\Lab6\UI\classes\console.py:61:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab6\UI\classes\console.py:61:4: R1710: Either all return statements in a function should return an expression, or none of them should. (inconsistent-return-statements)

Data\Lab6\UI\classes\console.py:87:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab6\UI\classes\console.py:6:0: C0411: standard import "unittest" should be placed before first party imports "Data.Lab6.BLL.classes.calculator.Calculator", "Data.Shared.classes.history.History", "Data.Shared.classes.validators.Validators", "Data.Shared.classes.unit_test.UnitTest", "global_variables.MEMORY_OPERATIONS" (wrong-import-order)

Data\Lab6\UI\classes\console.py:7:0: C0411: standard import "logging" should be placed before first party imports "Data.Lab6.BLL.classes.calculator.Calculator", "Data.Shared.classes.history.History", "Data.Shared.classes.validators.Validators", "Data.Shared.classes.unit_test.UnitTest", "global_variables.MEMORY_OPERATIONS" (wrong-import-order)

***** Module Lab7.BLL.classes.network_request

Data\Lab7\BLL\classes\network_request.py:75:0: C0301: Line too long (115/100) (line-too-long)

Data\Lab7\BLL\classes\network_request.py:79:0: C0325: Unnecessary parens after 'not' keyword (superfluous-parens)

Data\Lab7\BLL\classes\network_request.py:81:0: C0325: Unnecessary parens after 'not' keyword (superfluous-parens)

Data\Lab7\BLL\classes\network_request.py:87:0: C0304: Final newline missing (missing-final-newline)

Data\Lab7\BLL\classes\network_request.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Lab7\BLL\classes\network_request.py:3:0: W0401: Wildcard import global_variables (wildcard-import)

Data\Lab7\BLL\classes\network_request.py:6:0: C0115: Missing class docstring (missing-class-docstring)

Data\Lab7\BLL\classes\network_request.py:8:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab7\BLL\classes\network_request.py:11:12: R1705: Unnecessary "elif" after "return", remove the leading "el" from "elif" (no-else-return)

Data\Lab7\BLL\classes\network_request.py:8:4: R1710: Either all return statements in a function should return an expression, or none of them should. (inconsistent-return-statements)

Data\Lab7\BLL\classes\network_request.py:26:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab7\BLL\classes\network_request.py:39:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab7\BLL\classes\network_request.py:44:12: W0612: Unused variable 'result' (unused-variable)

Data\Lab7\BLL\classes\network_request.py:53:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab7\BLL\classes\network_request.py:58:22: W1309: Using an f-string that does not have any interpolated variables (f-string-without-interpolation)

Data\Lab7\BLL\classes\network_request.py:63:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab7\BLL\classes\network_request.py:3:0: W0614: Unused import(s) os, WIDTH, HEIGHT, FONT, COLOR, COLOR_RESET, MEMORY_OPERATIONS, OPERANDS, MEMORY, DIGITS, BASE_API_URL, HEADER_STYLE and ENTITY_MAP from wildcard import of global_variables (unused-wildcard-import)

***** Module Lab7.BLL.classes.unit_of_work

Data\Lab7\BLL\classes\unit_of_work.py:12:0: C0304: Final newline missing
(missing-final-newline)

Data\Lab7\BLL\classes\unit_of_work.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab7\BLL\classes\unit_of_work.py:4:0: C0115: Missing class docstring
(missing-class-docstring)

Data\Lab7\BLL\classes\unit_of_work.py:4:0: R0903: Too few public methods (0/2)
(too-few-public-methods)

***** Module Lab7.DAL.classes.api_repository

Data\Lab7\DAL\classes\api_repository.py:32:0: C0304: Final newline missing
(missing-final-newline)

Data\Lab7\DAL\classes\api_repository.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab7\DAL\classes\api_repository.py:5:0: C0115: Missing class docstring
(missing-class-docstring)

Data\Lab7\DAL\classes\api_repository.py:10:19: W3101: Missing timeout argument for method
'requests.get' can cause your program to hang indefinitely (missing-timeout)

Data\Lab7\DAL\classes\api_repository.py:15:19: W3101: Missing timeout argument for method
'requests.get' can cause your program to hang indefinitely (missing-timeout)

Data\Lab7\DAL\classes\api_repository.py:20:19: W3101: Missing timeout argument for method
'requests.post' can cause your program to hang indefinitely (missing-timeout)

Data\Lab7\DAL\classes\api_repository.py:25:19: W3101: Missing timeout argument for method
'requests.patch' can cause your program to hang indefinitely (missing-timeout)

Data\Lab7\DAL\classes\api_repository.py:30:19: W3101: Missing timeout argument for method
'requests.delete' can cause your program to hang indefinitely (missing-timeout)

Data\Lab7\DAL\classes\api_repository.py:2:0: C0411: third party import "requests" should be
placed before first party import "Data.Lab7.DAL.classes.repository.Repository"
(wrong-import-order)

***** Module Lab7.DAL.classes.database_handler

Data\Lab7\DAL\classes\database_handler.py:51:0: C0301: Line too long (103/100)
(line-too-long)

Data\Lab7\DAL\classes\database_handler.py:56:0: C0304: Final newline missing
(missing-final-newline)

Data\Lab7\DAL\classes\database_handler.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab7\DAL\classes\database_handler.py:6:0: C0115: Missing class docstring
(missing-class-docstring)

Data\Lab7\DAL\classes\database_handler.py:12:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab7\DAL\classes\database_handler.py:23:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab7\DAL\classes\database_handler.py:30:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab7\DAL\classes\database_handler.py:34:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab7\DAL\classes\database_handler.py:36:13: W1514: Using open without explicitly
specifying an encoding (unspecified-encoding)

Data\Lab7\DAL\classes\database_handler.py:42:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab7\DAL\classes\database_handler.py:44:13: W1514: Using open without explicitly
specifying an encoding (unspecified-encoding)

Data\Lab7\DAL\classes\database_handler.py:49:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab7\DAL\classes\database_handler.py:52:13: W1514: Using open without explicitly
specifying an encoding (unspecified-encoding)

Data\Lab7\DAL\classes\database_handler.py:55:4: C0116: Missing function or method docstring
(missing-function-docstring)

***** Module Lab7.DAL.classes.repository

Data\Lab7\DAL\classes\repository.py:15:0: C0304: Final newline missing
(missing-final-newline)

Data\Lab7\DAL\classes\repository.py:1:0: C0114: Missing module docstring
(missing-module-docstring)

Data\Lab7\DAL\classes\repository.py:1:0: C0115: Missing class docstring
(missing-class-docstring)

Data\Lab7\DAL\classes\repository.py:2:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab7\DAL\classes\repository.py:5:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab7\DAL\classes\repository.py:8:4: C0116: Missing function or method docstring
(missing-function-docstring)

Data\Lab7\DAL\classes\repository.py:11:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab7\DAL\classes\repository.py:14:4: C0116: Missing function or method docstring (missing-function-docstring)

***** Module Lab7.UI.classes.console

Data\Lab7\UI\classes\console.py:94:0: C0301: Line too long (106/100) (line-too-long)

Data\Lab7\UI\classes\console.py:128:0: C0304: Final newline missing (missing-final-newline)

Data\Lab7\UI\classes\console.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Lab7\UI\classes\console.py:1:0: W0401: Wildcard import global_variables (wildcard-import)

Data\Lab7\UI\classes\console.py:13:0: C0115: Missing class docstring (missing-class-docstring)

Data\Lab7\UI\classes\console.py:18:36: E1101: Super of 'Console' has no '__call__' member (no-member)

Data\Lab7\UI\classes\console.py:18:36: R1725: Consider using Python 3 style super() without arguments (super-with-arguments)

Data\Lab7\UI\classes\console.py:28:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab7\UI\classes\console.py:37:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab7\UI\classes\console.py:52:15: W0718: Catching too general exception Exception (broad-exception-caught)

Data\Lab7\UI\classes\console.py:56:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab7\UI\classes\console.py:65:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab7\UI\classes\console.py:76:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab7\UI\classes\console.py:85:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab7\UI\classes\console.py:91:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab7\UI\classes\console.py:96:16: R1724: Unnecessary "elif" after "continue", remove the leading "el" from "elif" (no-else-continue)

Data\Lab7\UI\classes\console.py:106:16: W1203: Use lazy % formatting in logging functions (logging-fstring-interpolation)

Data\Lab7\UI\classes\console.py:5:0: C0411: third party import "rich.console.Console" should be placed before first party imports "global_variables.*",
"Data.Lab7.BLL.classes.unit_of_work.UnitOfWork",
"Data.Lab7.DAL.classes.database_handler.DBHandler",
"Data.Lab7.BLL.classes.network_request.NetworkRequest" (wrong-import-order)

Data\Lab7\UI\classes\console.py:6:0: C0411: third party import "rich.table.Table" should be placed before first party imports "global_variables.*",
"Data.Lab7.BLL.classes.unit_of_work.UnitOfWork",
"Data.Lab7.DAL.classes.database_handler.DBHandler",
"Data.Lab7.BLL.classes.network_request.NetworkRequest" (wrong-import-order)

Data\Lab7\UI\classes\console.py:7:0: C0411: standard import "logging" should be placed before third party imports "rich.console.Console", "rich.table.Table" and first party imports "global_variables.*",
"Data.Lab7.BLL.classes.unit_of_work.UnitOfWork",
"Data.Lab7.DAL.classes.database_handler.DBHandler",
"Data.Lab7.BLL.classes.network_request.NetworkRequest" (wrong-import-order)

Data\Lab7\UI\classes\console.py:1:0: W0614: Unused import(s) os, WIDTH, HEIGHT, FONT, COLOR, COLOR_RESET, MEMORY_OPERATIONS, OPERANDS, MEMORY, DIGITS, LINK_REGEX, EMAIL_REGEX and PHONE_REGEX from wildcard import of global_variables (unused-wildcard-import)

***** Module Lab8.BLL.classes.data_processor

Data\Lab8\BLL\classes\data_processor.py:11:0: C0304: Final newline missing (missing-final-newline)

Data\Lab8\BLL\classes\data_processor.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Lab8\BLL\classes\data_processor.py:1:0: C0115: Missing class docstring (missing-class-docstring)

Data\Lab8\BLL\classes\data_processor.py:3:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab8\BLL\classes\data_processor.py:7:4: C0116: Missing function or method docstring (missing-function-docstring)

***** Module Lab8.UI.classes.console

Data\Lab8\UI\classes\console.py:21:0: C0301: Line too long (108/100) (line-too-long)

Data\Lab8\UI\classes\console.py:70:0: C0301: Line too long (109/100) (line-too-long)

Data\Lab8\UI\classes\console.py:110:0: C0304: Final newline missing (missing-final-newline)

Data\Lab8\UI\classes\console.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Lab8\UI\classes\console.py:3:0: E0401: Unable to import 'matplotlib.pyplot' (import-error)

Data\Lab8\UI\classes\console.py:4:0: E0401: Unable to import 'seaborn' (import-error)

Data\Lab8\UI\classes\console.py:11:0: C0115: Missing class docstring (missing-class-docstring)

Data\Lab8\UI\classes\console.py:16:36: E1101: Super of 'Console' has no '__call__' member (no-member)

Data\Lab8\UI\classes\console.py:16:36: R1725: Consider using Python 3 style super() without arguments (super-with-arguments)

Data\Lab8\UI\classes\console.py:29:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab8\UI\classes\console.py:40:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab8\UI\classes\console.py:55:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab8\UI\classes\console.py:67:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab8\UI\classes\console.py:85:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Lab8\UI\classes\console.py:3:0: C0411: third party import "matplotlib.pyplot" should be placed before first party imports "Data.Lab8.BLL.classes.data_processor.DataProcessor", "Data.Shared.classes.data_io.DataIO" (wrong-import-order)

Data\Lab8\UI\classes\console.py:4:0: C0411: third party import "seaborn" should be placed before first party imports "Data.Lab8.BLL.classes.data_processor.DataProcessor", "Data.Shared.classes.data_io.DataIO" (wrong-import-order)

Data\Lab8\UI\classes\console.py:5:0: C0411: standard import "logging" should be placed before third party imports "matplotlib.pyplot", "seaborn" and first party imports "Data.Lab8.BLL.classes.data_processor.DataProcessor", "Data.Shared.classes.data_io.DataIO" (wrong-import-order)

***** Module Shared.classes.data_io

Data\Shared\classes\data_io.py:50:0: C0304: Final newline missing (missing-final-newline)

Data\Shared\classes\data_io.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Shared\classes\data_io.py:1:0: E0401: Unable to import 'pandas' (import-error)

Data\Shared\classes\data_io.py:2:0: E0401: Unable to import 'mpld3' (import-error)

Data\Shared\classes\data_io.py:10:0: C0115: Missing class docstring (missing-class-docstring)

Data\Shared\classes\data_io.py:12:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\data_io.py:18:12: W1203: Use lazy % formatting in logging functions (logging-fstring-interpolation)

Data\Shared\classes\data_io.py:19:12: W0707: Consider explicitly re-raising using 'raise FileNotFoundError(f'Error loading data: {e}') from e' (raise-missing-from)

Data\Shared\classes\data_io.py:22:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\data_io.py:30:15: W0718: Catching too general exception Exception (broad-exception-caught)

Data\Shared\classes\data_io.py:27:17: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)

Data\Shared\classes\data_io.py:34:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\data_io.py:43:25: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)

Data\Shared\classes\data_io.py:48:20: W0707: Consider explicitly re-raising using 'except IOError as exc' and 'raise IOError('The file could not be uploaded, please try again') from exc' (raise-missing-from)

Data\Shared\classes\data_io.py:3:0: C0411: standard import "os" should be placed before third party imports "pandas", "mpld3.fig_to_html" (wrong-import-order)

Data\Shared\classes\data_io.py:4:0: C0411: standard import "logging" should be placed before third party imports "pandas", "mpld3.fig_to_html" (wrong-import-order)

***** Module Shared.classes.history

Data\Shared\classes\history.py:28:0: C0304: Final newline missing (missing-final-newline)

Data\Shared\classes\history.py:28:0: C0301: Line too long (105/100) (line-too-long)

Data\Shared\classes\history.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Shared\classes\history.py:7:0: C0115: Missing class docstring (missing-class-docstring)

Data\Shared\classes\history.py:9:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\history.py:11:13: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)

Data\Shared\classes\history.py:15:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\history.py:17:13: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)

Data\Shared\classes\history.py:25:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\history.py:27:13: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)

***** Module Shared.classes.incorrect_character_exception

Data\Shared\classes\incorrect_character_exception.py:4:0: C0304: Final newline missing (missing-final-newline)

Data\Shared\classes\incorrect_character_exception.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Shared\classes\incorrect_character_exception.py:1:0: C0115: Missing class docstring (missing-class-docstring)

***** Module Shared.classes.unit_test

Data\Shared\classes\unit_test.py:112:0: C0301: Line too long (110/100) (line-too-long)

Data\Shared\classes\unit_test.py:170:0: C0304: Final newline missing (missing-final-newline)

Data\Shared\classes\unit_test.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Shared\classes\unit_test.py:9:0: C0115: Missing class docstring (missing-class-docstring)

Data\Shared\classes\unit_test.py:16:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\unit_test.py:20:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\unit_test.py:24:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\unit_test.py:29:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\unit_test.py:36:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\unit_test.py:137:13: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)

Data\Shared\classes\unit_test.py:149:13: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)

Data\Shared\classes\unit_test.py:161:13: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)

***** Module Shared.classes.validators

Data\Shared\classes\validators.py:39:0: C0301: Line too long (115/100) (line-too-long)

Data\Shared\classes\validators.py:44:0: C0301: Line too long (115/100) (line-too-long)

Data\Shared\classes\validators.py:79:0: C0301: Line too long (101/100) (line-too-long)

Data\Shared\classes\validators.py:207:0: C0325: Unnecessary parens after 'not' keyword (superfluous-parens)

Data\Shared\classes\validators.py:246:0: C0304: Final newline missing (missing-final-newline)

Data\Shared\classes\validators.py:1:0: C0114: Missing module docstring (missing-module-docstring)

Data\Shared\classes\validators.py:15:0: C0115: Missing class docstring (missing-class-docstring)

Data\Shared\classes\validators.py:17:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:20:12: R1705: Unnecessary "else" after "return", remove the "else" and de-indent the code inside it (no-else-return)

Data\Shared\classes\validators.py:27:12: W0707: Consider explicitly re-raising using 'except ValueError as exc' and 'raise ValueError('Invalid input, please enter a valid non-negative integer number') from exc' (raise-missing-from)

Data\Shared\classes\validators.py:30:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:50:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:53:12: R1705: Unnecessary "elif" after "return", remove the leading "el" from "elif" (no-else-return)

Data\Shared\classes\validators.py:65:20: W0707: Consider explicitly re-raising using 'except ValueError as exc' and 'raise ValueError('Please enter a valid number / memory operation') from exc' (raise-missing-from)

Data\Shared\classes\validators.py:68:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:73:12: W0707: Consider explicitly re-raising using 'except ValueError as exc' and 'raise ValueError('Please enter a valid number') from exc' (raise-missing-from)

Data\Shared\classes\validators.py:76:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:79:12: R1705: Unnecessary "else" after "return", remove the "else" and de-indent the code inside it (no-else-return)

Data\Shared\classes\validators.py:86:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:112:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:121:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:123:12: R1705: Unnecessary "else" after "return", remove the "else" and de-indent the code inside it (no-else-return)

Data\Shared\classes\validators.py:139:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:151:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:179:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:195:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:204:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:211:12: W0707: Consider explicitly re-raising using 'except ValueError as exc' and 'raise ValueError('Incorrect value, please try again.') from exc' (raise-missing-from)

Data\Shared\classes\validators.py:215:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:228:4: C0116: Missing function or method docstring (missing-function-docstring)

Data\Shared\classes\validators.py:8:0: C0411: standard import "logging" should be placed before first party imports "global_variables", "Data.Shared.classes.history.History", "Data.Shared.classes.data_io.DataIO", "Data.Lab5.BLL.classes.cube.Cube", "Data.Lab5.BLL.classes.pyramid.Pyramid", "Data.Lab5.BLL.classes.sphere.Sphere" (wrong-import-order)

***** Module classes.console

UI\classes\console.py:60:0: C0304: Final newline missing (missing-final-newline)

UI\classes\console.py:1:0: C0114: Missing module docstring (missing-module-docstring)

UI\classes\console.py:15:0: C0115: Missing class docstring (missing-class-docstring)

UI\classes\console.py:20:36: E1101: Super of 'Console' has no '__call__' member (no-member)

UI\classes\console.py:20:36: R1725: Consider using Python 3 style super() without arguments (super-with-arguments)

UI\classes\console.py:29:4: C0116: Missing function or method docstring (missing-function-docstring)

UI\classes\console.py:60:12: W1203: Use lazy % formatting in logging functions (logging-fstring-interpolation)

UI\classes\console.py:9:0: C0411: standard import "logging" should be placed before first party imports
"Data.Lab1.UI.classes.console", "Data.Lab2.UI.classes.console",
"Data.Lab3.UI.classes.console" (...) "Data.Lab6.UI.classes.console",
"Data.Lab7.UI.classes.console", "Data.Lab8.UI.classes.console" (wrong-import-order)

***** Module runner

runner.py:1:0: R0801: Similar lines in 2 files

```
==Lab2.UI.classes.console:[63:85]
```

```
==Lab6.UI.classes.console:[72:93]
```

```
print("Result : " + str(result.result))
```

```
try_again = input("\nCalculation has finished successfully! \n"
```

```
    "Current options: \n"
```

```
    "Try again? (Y / N) \n"
```

```
    "Store a value into memory? (MS / M+ / M-) \n"
```

```
    "Your choice: ").lower()
```

```
if try_again in MEMORY_OPERATIONS:
```

```
    Validators.validate_memory(try_again, result.result)
```

```
elif try_again == "y":
```

```
    return False
```

```
else:
```

```
    return True
```

```
def settings(self):
```

```
    settings_prompt = input("\n1 - Change the amount of digits after a decimal point in a  
number \n"
```

```
    "2 - Clear history\n"
```

```
    "Your choice: ")
```

```
match settings_prompt:
```

```
    case "1":
```

```
        while True: (duplicate-code)
```

```
runner.py:1:0: R0801: Similar lines in 2 files
```

```
==Lab1.BLL.functions.calculate:[1:18]
```

```
==Lab2.BLL.classes.calculator:[14:31]
```

```
match operator:
```

```
    case "+":
```

```
        return num1 + num2
```

```
    case "-":
```

```
        return num1 - num2
```

```
    case "*":
```

```
        return num1 * num2
```

```
    case "/":
```

```
        return num1 / num2
```

```
    case "^":
```

```
        return num1 ** num2
```

```
    case "root":
```

```
        return num1 ** (1 / num2)
```

```
    case "%":
```

```
        return num1 % num2
```

```
    case _:
```

```
        return 0.0 (duplicate-code)
```

```
runner.py:1:0: R0801: Similar lines in 2 files
```

```
==Lab1.UI.classes.console:[6:25]
```

```
==Lab2.UI.classes.console:[8:27]
```

```
logger = logging.getLogger(__name__)
```

```
logging.basicConfig(filename='Logs/logs.log', encoding='utf-8', level=logging.DEBUG)
```

```
class Console:
```

```
    _instances = {}
```

```
    def __call__(self, *args, **kwargs):
```

```
        if self not in self._instances:
```

```
            self._instances[self] = super(Console, self).__call__(*args, **kwargs)
```



```
else:
    self._instances[self].__init__(*args, **kwargs)
return self._instances[self]
```

```
def __init__(self):
    self.main()
```

```
@staticmethod
```

```
def main():
```

```
    while True: (duplicate-code)
```

runner.py:1:0: R0801: Similar lines in 2 files

==Lab4.UI.classes.console:[63:73]

==Lab5.UI.classes.console:[91:101]

```
        "1 - Red\n"
```

```
        "2 - Green\n"
```

```
        "3 - Yellow\n"
```

```
        "4 - Blue\n"
```

```
        "5 - Magenta\n"
```

```
        "6 - Cyan\n"
```

```
        "7 - Light gray\n"
```

```
        "8 - Random\n"
```

```
        "0 - Default\n"
```

```
        "Your choice: ") (duplicate-code)
```

runner.py:1:0: R0801: Similar lines in 2 files

==Lab1.UI.classes.console:[6:24]

==Lab3.UI.classes.console:[9:27]

```
logger = logging.getLogger(__name__)
```

```
logging.basicConfig(filename='Logs/logs.log', encoding='utf-8', level=logging.DEBUG)
```

```
class Console:
```

```
    _instances = {}
```

```
def __call__(self, *args, **kwargs):
```

```
    if self not in self._instances:
```

```
        self._instances[self] = super(Console, self).__call__(*args, **kwargs)
```

```
else:
    self._instances[self].__init__(*args, **kwargs)
return self._instances[self]
```

```
def __init__(self):
    self.main()
```

```
@staticmethod
```

```
def main(): (duplicate-code)
```

runner.py:1:0: R0801: Similar lines in 2 files

==Lab8.UI.classes.console:[7:21]

==classes.console:[11:25]

```
logger = logging.getLogger(__name__)
```

```
logging.basicConfig(filename='Logs/logs.log', encoding='utf-8', level=logging.DEBUG)
```

```
class Console:
```

```
    _instances = {}
```

```
def __call__(self, *args, **kwargs):
```

```
    if self not in self._instances:
```

```
        self._instances[self] = super(Console, self).__call__(*args, **kwargs)
```

```
    else:
```

```
        self._instances[self].__init__(*args, **kwargs)
```

```
    return self._instances[self]
```

```
def __init__(self): (duplicate-code)
```

runner.py:1:0: R0801: Similar lines in 2 files

==Lab3.UI.classes.console:[9:23]

==Lab7.UI.classes.console:[9:23]

```
logger = logging.getLogger(__name__)
```

```
logging.basicConfig(filename='Logs/logs.log', encoding='utf-8', level=logging.DEBUG)
```

```
class Console:
```

```
    _instances = {}
```

```

def __call__(self, *args, **kwargs):
    if self not in self._instances:
        self._instances[self] = super(Console, self).__call__(*args, **kwargs)
    else:
        self._instances[self].__init__(*args, **kwargs)
    return self._instances[self]

```

```

def __init__(self): (duplicate-code)

```

runner.py:1:0: R0801: Similar lines in 2 files

==Lab2.UI.classes.console:[8:22]

==Lab6.UI.classes.console:[9:23]

```

logger = logging.getLogger(__name__)

```

```

logging.basicConfig(filename='Logs/logs.log', encoding='utf-8', level=logging.DEBUG)

```

```

class Console:

```

```

    _instances = {}

```

```

def __call__(self, *args, **kwargs):
    if self not in self._instances:
        self._instances[self] = super(Console, self).__call__(*args, **kwargs)
    else:
        self._instances[self].__init__(*args, **kwargs)
    return self._instances[self]

```

```

def __init__(self): (duplicate-code)

```

runner.py:1:0: R0801: Similar lines in 2 files

==Lab1.UI.classes.console:[6:20]

==Lab5.UI.classes.console:[4:18]

```

logger = logging.getLogger(__name__)

```

```

logging.basicConfig(filename='Logs/logs.log', encoding='utf-8', level=logging.DEBUG)

```

```

class Console:

```

```

    _instances = {}

```

```

def __call__(self, *args, **kwargs):

```

```

if self not in self._instances:
    self._instances[self] = super(Console, self).__call__(*args, **kwargs)
else:
    self._instances[self].__init__(*args, **kwargs)
return self._instances[self]

```

```

def __init__(self): (duplicate-code)

```

runner.py:1:0: R0801: Similar lines in 2 files

==Lab3.UI.classes.console:[136:144]

==Lab4.UI.classes.console:[62:70]

```

color_prompt = input("Enter the color of your ASCII art:\n"
    "1 - Red\n"
    "2 - Green\n"
    "3 - Yellow\n"
    "4 - Blue\n"
    "5 - Magenta\n"
    "6 - Cyan\n"
    "7 - Light gray\n" (duplicate-code)

```

runner.py:1:0: R0801: Similar lines in 2 files

==Lab3.UI.classes.console:[137:144]

==Lab5.UI.classes.console:[91:98]

```

    "1 - Red\n"
    "2 - Green\n"
    "3 - Yellow\n"
    "4 - Blue\n"
    "5 - Magenta\n"
    "6 - Cyan\n"
    "7 - Light gray\n" (duplicate-code)

```

runner.py:1:0: R0801: Similar lines in 2 files

==Lab1.UI.classes.console:[9:20]

==Lab4.UI.classes.console:[5:16]

```

class Console:

```

```

    _instances = {}

```

```

def __call__(self, *args, **kwargs):

```

```

if self not in self._instances:
    self._instances[self] = super(Console, self).__call__(*args, **kwargs)
else:
    self._instances[self].__init__(*args, **kwargs)
return self._instances[self]

```

```

def __init__(self): (duplicate-code)

```

runner.py:1:0: R0801: Similar lines in 2 files

==Lab3.UI.classes.console:[61:70]

==Lab4.UI.classes.console:[36:44]

```

save_prompt = input("Do you want to save the text? (y/n): ").lower()

```

```

if save_prompt == "y":

```

```

    try:

```

```

        DataIO.upload_to_file(ftext)

```

```

    except IOError:

```

```

        print("An error occurred during file upload, please check if 'Uploads' folder exists and
try again")

```

```

def change_symbols(self): (duplicate-code)

```

runner.py:1:0: R0801: Similar lines in 2 files

==Lab2.UI.classes.console:[48:57]

==Lab6.UI.classes.console:[61:67]

```

num1 = Validators.validate_num("\nEnter first number (or MR / MC): ")

```

```

operator = Validators.validate_operator()

```

```

if operator in MEMORY_OPERATIONS:

```

```

    Validators.validate_memory(operator, num1)

```

```

    return False

```

```

num2 = Validators.validate_num("Enter second number (or MR / MC): ")

```

```

(duplicate-code)

```

runner.py:1:0: R0801: Similar lines in 2 files

==Lab5.BLL.classes.pyramid:[20:25]

==Lab5.BLL.classes.sphere:[50:55]

```

shape = self.shape

```

```

z_offset = max(0, -self.pos_z)
depth = len(shape)
height = len(shape[0])
width = len(shape[0][0]) (duplicate-code)
runner.py:1:0: R0801: Similar lines in 2 files
==Lab1.UI.functions.calculator_settings:[11:17]
==Lab2.UI.classes.console:[93:99]
    case "2":
        History.clear()
        print("History cleared successfully")

    case _:
        print("Invalid input") (duplicate-code)

```

Your code has been rated at 7.33/10 (previous run: 10.00/10, -2.67)

Код програми:

```

"""The user interface of the lab work"""
import Data.Lab1.UI.classes.console
import Data.Lab2.UI.classes.console
import Data.Lab3.UI.classes.console
import Data.Lab4.UI.classes.console
import Data.Lab5.UI.classes.console
import Data.Lab6.UI.classes.console
import Data.Lab7.UI.classes.console
import Data.Lab8.UI.classes.console
from Data.Shared.functions.logger import logger

class Console:
    """The console class of this lab work"""
    instance = None

```

```
def __new__(cls):
    if cls.instance is None:
        cls.instance = super(Console, cls).__new__(cls)
    return cls.instance
```

```
def __init__(self):
    logger.info("Started the program")
    self.main()
```

```
@staticmethod
```

```
def main():
    """The main menu of this lab work"""
    while True:
        prompt = input("Select lab work (1-8): ")
        match prompt:
            case '1':
                logger.info("Started Lab 1")
                Data.Lab1.UI.classes.console.Console()
            case '2':
                logger.info("Started Lab 2")
                Data.Lab2.UI.classes.console.Console()
            case '3':
                logger.info("Started Lab 3")
                Data.Lab3.UI.classes.console.Console()
            case '4':
                logger.info("Started Lab 4")
                Data.Lab4.UI.classes.console.Console()
            case '5':
                logger.info("Started Lab 5")
                Data.Lab5.UI.classes.console.Console()
            case '6':
                logger.info("Started Lab 6")
                Data.Lab6.UI.classes.console.Console()
            case '7':
                logger.info("Started Lab 7")
```

```
        Data.Lab7.UI.classes.console.Console()
    case '8':
        logger.info("Started Lab 8")
        Data.Lab8.UI.classes.console.Console()
    case _:
        logger.info("Ended the program")
        break
logger.info("Ended Lab %s", prompt)
```


На рис. 1-2 зображено вигляд та результат виконання програми:

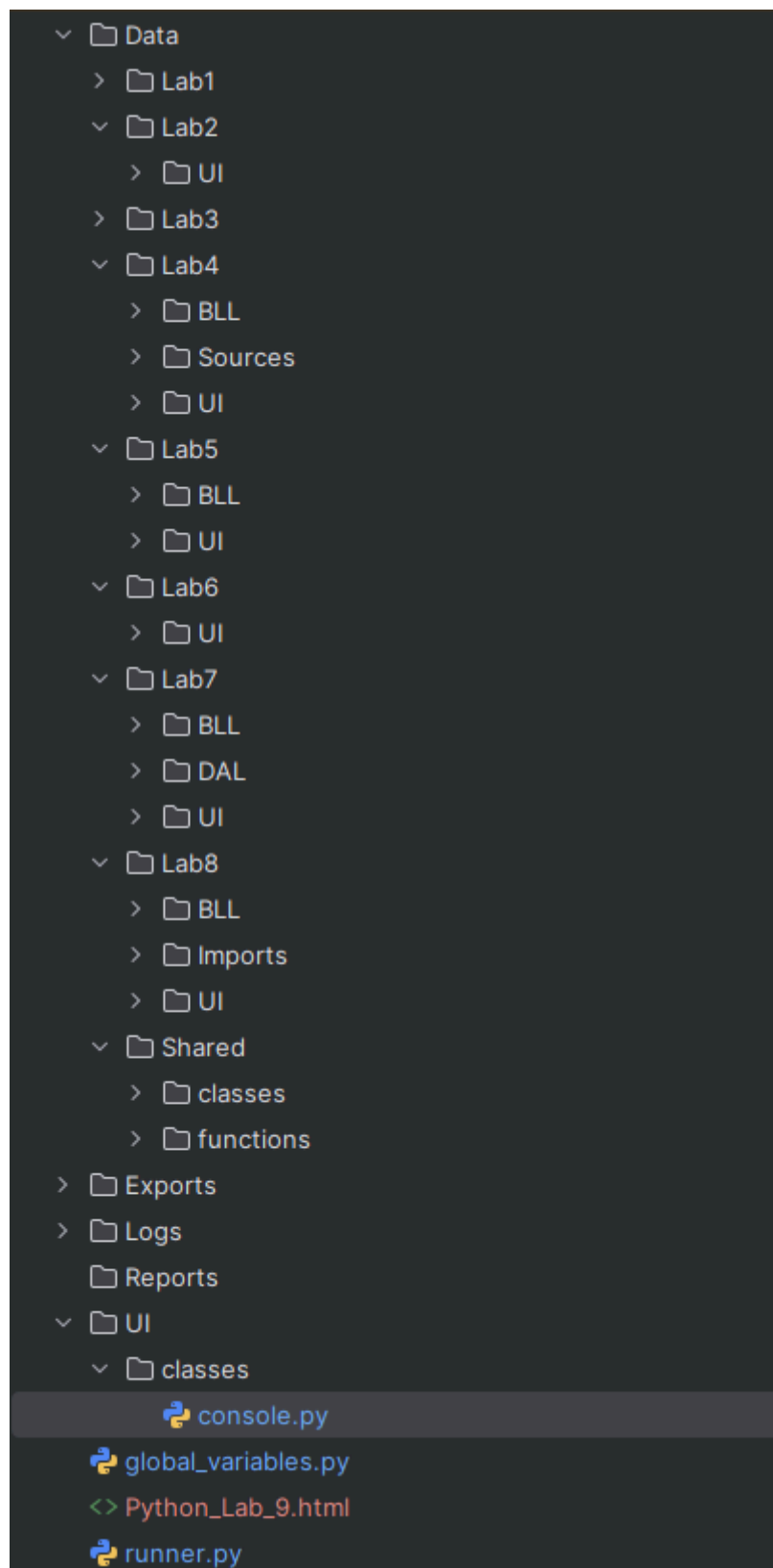


Рис. 1. Структура лабораторної роботи

```
Select lab work (1-8): 1
1 - Calculate a number, 2 - View history, 3 - Additional settings: 1
Enter first number (or MR / MC): 3.141
Enter operator (or MS / M+ / M-): MS
Memory value stored! Current value: 3.141
1 - Calculate a number, 2 - View history, 3 - Additional settings: 1
Enter first number (or MR / MC): 7
Enter operator (or MS / M+ / M-): *
Enter second number (or MR / MC): MR
Recovered value: 3.141
Result : 21.987
The operation was saved into history
Would you like to try again? (Y / N) // Store a value into memory? (MS / M+ / M-): n
Select lab work (1-8):
```

Рис. 2. Вигляд програми лабораторної роботи

Посилання на Github: [PaperGlit/Python_Lab_9](https://github.com/PaperGlit/Python_Lab_9)

Висновок:

Виконавши ці завдання, я створив програму, що скріплює та узагальнює всі лабораторні роботи, що я виконав з цього предмету.