Polynomial

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Chapter 1

Namespace Index

1.1 Namespace List

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main 7
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Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

classes.Polynomial 11

Chapter 3

File Index

3.1 File List

Here is a list of all files with brief descriptions:

classes.py 15
main.py 15
test_clasees.py 16

Chapter 4

Namespace Documentation

4.1 classes Namespace Reference

Classes

- class Polynomial

4.1.1 Detailed Description

```
@file classes.py
@brief Polynomial realisation
@author Yevik A. 421702
@see Polynomial
```

4.2 main Namespace Reference

Functions

- check_size (int degree, list coefficients)
- input_polynomial (str name)
- operation (Polynomial polynomial1, Polynomial polynomial2, str operator)
- i_operation (Polynomial pol, str operator)

Variables

- pol1 = input_polynomial("first")
- pol2 = input_polynomial("second")
- choice = int(input("Enter your choice: "))
- degree1 = int(input("Enter degree (pol1): "))
- degree2 = int(input("Enter degree (pol2): "))
- value = int(input("Enter your value: "))

4.2.1 Detailed Description

```
@file main.py
@brief Program file that is executed
```

4.2.2 Function Documentation

4.2.2.1 check_size()

```
main.check_size (
            int degree,
            list coefficients)
```

4.2.2.2 i_operation()

```
main.i_operation (
            Polynomial pol,
            str operator)
```

4.2.2.3 input_polynomial()

```
main.input_polynomial (
            str name)
```

4.2.2.4 operation()

```
main.operation (
            Polynomial polynomial1,
            Polynomial polynomial2,
            str operator)
```

4.2.3 Variable Documentation

4.2.3.1 choice

```
main.choice = int(input("Enter your choice:  "))
```

4.2.3.2 degree1

```
main.degree1 = int(input("Enter degree (pol1):  "))
```

4.2.3.3 degree2

```
main.degree2 = int(input("Enter degree (pol2):  "))
```

4.2.3.4 pol1

```
main.pol1 = input_polynomial("first")
```

4.2.3.5 pol2

```
main.pol2 = input_polynomial("second")
```

4.2.3.6 value

```
main.value = int(input("Enter your value:  "))
```

4.3 test_clasees Namespace Reference

Functions

- test_polynomial ()
- test_call ()
- test_get_item ()
- test_sum ()
- test_sum_equal ()
- test_difference ()
- test_difference_equal ()
- test_multiplication ()
- test_multiplication_equal ()
- test_division ()
- test_division_equal ()
- test_show ()

4.3.1 Detailed Description

```
@file test_classes.py
@brief Tests for Polynomial class
```

4.3.2 Function Documentation

4.3.2.1 test_call()

```
test_clasees.test_call ()
```

4.3.2.2 test_difference()

```
test_clasees.test_difference ()
```

4.3.2.3 test_difference_equal()

```
test_clasees.test_difference_equal ()
```

4.3.2.4 test_division()

```
test_clasees.test_division ()
```

4.3.2.5 test_division_equal()

```
test_clasees.test_division_equal ()
```

4.3.2.6 test_get_item()

```
test_clasees.test_get_item ()
```

4.3.2.7 test_multiplication()

```
test_clasees.test_multiplication ()
```

4.3.2.8 test_multiplication_equal()

```
test_clasees.test_multiplication_equal ()
```

4.3.2.9 test_polynomial()

```
test_clasees.test_polynomial ()
```

4.3.2.10 test_show()

```
test_clasees.test_show ()
```

4.3.2.11 test_sum()

```
test_clasees.test_sum ()
```

4.3.2.12 test_sum_equal()

```
test_clasees.test_sum_equal ()
```

Chapter 5

Class Documentation

5.1 classes.Polynomial Class Reference

Public Member Functions

- __init__ (self, int degree, list coefficients)
- degree (self)
- dictionary (self)
- coefficients (self)
- __getitem__ (self, degree)
- __call__ (self, number)
- __add__ (self, other)
- __iadd__ (self, other)
- __sub__ (self, other)
- __isub__ (self, other)
- __mul__ (self, other)
- __imul__ (self, other)
- __truediv__ (self, other)
- __itruediv__ (self, other)
- show_polynomial (self)

5.1.1 Constructor & Destructor Documentation

5.1.1.1 __init__()

```
classes.Polynomial.__init__ (
              self,
             int degree,
             list coefficients)
```

```
@brief Constructor
:param degree: Polynomial degree
:param coefficients: Polynomial coefficients
@see Polynomial.degree
@see Polynomial.coefficients
@see Polynomial.dictionary
```

5.1.2 Member Function Documentation

5.1.2.1 __add__()

```
classes.Polynomial.__add__ (
              self,
              other)
```

```
@brief Add method
@details A method that allows using "+" operator on polynomials
:return: A polynomial sum method
```

5.1.2.2 __call__()

```
classes.Polynomial.__call__ (
              self,
              number)
```

```
@brief Call method
@details A method that allows to count polynomial value using ()
:param number: A number to count polynomial value with
:return: The result of an operation
```

5.1.2.3 __getitem__()

```
classes.Polynomial.__getitem__ (
              self,
              degree)
```

```
@brief Get item method
@details A method that allows to use () operator to get the value of a coefficient
:param degree: Polynomial element degree
:return: Polynomial coefficient
```

5.1.2.4 __iadd__()

```
classes.Polynomial.__iadd__ (
              self,
              other)
```

```
@brief Add and update method
@details A method that allows using "+=" operator on polynomials
:return: Updated polynomial
```

5.1.2.5 __imul__()

```
classes.Polynomial.__imul__ (
              self,
              other)
```

```
@brief Multiply and update method
@details A method that allows using "*=" operator on polynomials
:return: Updated polynomial
```

5.1.2.6 __isub__()

```
classes.Polynomial.__isub__ (
              self,
              other)
```

```
@brief Subtract and update method
@details A method that allows using "-=" operator on polynomials
:return: Updated polynomial
```

5.1.2.7 __itruediv__()

```
classes.Polynomial.__itruediv__ (
              self,
              other)
```

```
brief Divide and update method
@details A method that allows using "/=" operator on polynomials
:return: Updated polynomial
```

5.1.2.8 __mul__()

```
classes.Polynomial.__mul__ (
              self,
              other)
```

```
@brief Multiplication method
@details A method that allows using "*" operator on polynomials
:return: A polynomial multiplication method
```

5.1.2.9 __sub__()

```
classes.Polynomial.__sub__ (
              self,
              other)
```

```
@brief Difference method
@details A method that allows using "-" operator on polynomials
:return: A polynomial difference method
```

5.1.2.10 __truediv__()

```
classes.Polynomial.__truediv__ (
              self,
              other)

@brief Division method
@details A method that allows using "/" operator on polynomials
:return: A polynomial division method
```

5.1.2.11 coefficients()

```
classes.Polynomial.coefficients (
              self)

@brief Coefficients getter
:return: the list of coefficients
```

5.1.2.12 degree()

```
classes.Polynomial.degree (
              self)

@brief Degree getter
:return: polynomial degree
@see Polynomial.coefficients
@see Polynomial.dictionary
```

5.1.2.13 dictionary()

```
classes.Polynomial.dictionary (
              self)

@brief Dictionary getter
:return: operation dictionary
```

5.1.2.14 show_polynomial()

```
classes.Polynomial.show_polynomial (
              self)

@brief A method used to show the polynomial in math form
:return: A string that represents the polynomial
@see Polynomial.count_polynomial
@see Polynomial.polynomial_operations
```

The documentation for this class was generated from the following file:

- classes.py

Chapter 6

File Documentation

6.1 classes.py File Reference

Classes

- class classes.Polynomial

Namespaces

- namespace classes

6.2 main.py File Reference

Namespaces

- namespace main

Functions

- main.check_size (int degree, list coefficients)
- main.input_polynomial (str name)
- main.operation (Polynomial polynomial1, Polynomial polynomial2, str operator)
- main.i_operation (Polynomial pol, str operator)

Variables

- main.pol1 = input_polynomial("first")
- main.pol2 = input_polynomial("second")
- main.choice = int(input("Enter your choice: "))
- main.degree1 = int(input("Enter degree (pol1): "))
- main.degree2 = int(input("Enter degree (pol2): "))
- main.value = int(input("Enter your value: "))

6.3 test_clasees.py File Reference

Namespaces

- namespace test_clasees

Functions

- test_clasees.test_polynomial ()
- test_clasees.test_call ()
- test_clasees.test_get_item ()
- test_clasees.test_sum ()
- test_clasees.test_sum_equal ()
- test_clasees.test_difference ()
- test_clasees.test_difference_equal ()
- test_clasees.test_multiplication ()
- test_clasees.test_multiplication_equal ()
- test_clasees.test_division ()
- test_clasees.test_division_equal ()
- test_clasees.test_show ()

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