Polynomial

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Chapter 1

Namespace Index

1.1 Namespace List

Here is a list of all namespaces with brief descriptions:

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Class Index

2.1 Class List

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

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File Index

3.1 File List

Here is a list of all files with brief descriptions:

Chapter 4

Namespace Documentation

4.1 CLASSES Namespace Reference

Classes

- class Polynomial

  Polynomial class.

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)

Variables

- pol1 = input_polynomial("first")
- pol2 = input_polynomial("second")
- choice = int(input("Enter your choice: "))
- value = int(input("Enter your value: "))
- pol_sum = Polynomial.polynomial_operations(pol1, pol2, "s")
- pol_difference = Polynomial.polynomial_operations(pol1, pol2, "d")
- pol_multiplication = Polynomial.polynomial_multiplication(pol1, pol2)
- pol_division = Polynomial.polynomial_division(pol1, pol2)

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 input_polynomial()

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

4.2.3 Variable Documentation

4.2.3.1 choice

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

4.2.3.2 pol1

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

4.2.3.3 pol2

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

4.2.3.4 pol_difference

```
main.pol_difference = Polynomial.polynomial_operations(pol1, pol2, "d")
```

4.2.3.5 pol_division

```
main.pol_division = Polynomial.polynomial_division(pol1, pol2)
```

4.2.3.6 pol_multiplication

```
main.pol_multiplication = Polynomial.polynomial_multiplication(pol1, pol2)
```

4.2.3.7 pol_sum

```
main.pol_sum = Polynomial.polynomial_operations(pol1, pol2, "s")
```

4.2.3.8 value

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

4.3 test_clasees Namespace Reference

Functions

- test_create ()
- test_count ()
- test_show ()
- test_sum ()
- test_difference ()
- test_multiplication ()
- test_division ()

4.3.1 Detailed Description

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

4.3.2 Function Documentation

4.3.2.1 test_count()

```
test_clasees.test_count ()
```

4.3.2.2 test_create()

```
test_clasees.test_create ()
```

4.3.2.3 test_difference()

```
test_clasees.test_difference ()
```

4.3.2.4 test_division()

```
test_clasees.test_division ()
```

4.3.2.5 test_multiplication()

```
test_clasees.test_multiplication ()
```

4.3.2.6 test_show()

```
test_clasees.test_show ()
```

4.3.2.7 test_sum()

```
test_clasees.test_sum ()
```

Chapter 5

Class Documentation

5.1 CLASSES.Polynomial Class Reference

Polynomial class.

Public Member Functions

- __init__ (self, int degree, list coefficients)
- degree (self)
- dictionary (self)
- coefficients (self)
- show_polynomial (self)
- count_polynomial (self, number)
- polynomial_operations (cls, pol1, pol2, choice)
- polynomial_multiplication (cls, pol1, pol2)
- polynomial_division (cls, pol1, pol2)

5.1.1 Detailed Description

Polynomial class.

Sets the degree, the list of coefficients and dictionary for operations

See also

Polynomial.show_polynomial

Polynomial.count_polynomial

Polynomial.polynomial_operations

Polynomial.polynomial_multiplication

Polynomial.polynomial_division

5.1.2 Constructor & Destructor Documentation

5.1.2.1 __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
```

5.1.3 Member Function Documentation

5.1.3.1 coefficients()

```
CLASSES.Polynomial.coefficients (
              self)
```

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

5.1.3.2 count_polynomial()

```
CLASSES.Polynomial.count_polynomial (
              self,
              number)
```

```
@brief A method to count the polynomial value
:param number: A number to count the polynomial value with
:return: Value of a polynomial
@see Polynomial.show_polynomial
```

5.1.3.3 degree()

```
CLASSES.Polynomial.degree (
              self)
```

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

5.1.3.4 dictionary()

```
CLASSES.Polynomial.dictionary (
              self)
```

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

5.1.3.5 polynomial_division()

```
CLASSES.Polynomial.polynomial_division (
              cls,
              pol1,
              pol2)
```

```
@brief A method that allows to divide polynomials
:param pol1: First polynomial
:param pol2: Second polynomial
:return: Division
@see Polynomial.polynomial_operations
@see Polynomial.polynomial_multiplication
```

5.1.3.6 polynomial_multiplication()

```
CLASSES.Polynomial.polynomial_multiplication (
              cls,
              pol1,
              pol2)
```

```
@brief A method that allows to multiply polynomials
:param pol1: First polynomial
:param pol2: Second polynomial
:return: Multiplication
@see Polynomial.polynomial_operations
@see Polynomial.polynomial_division
```

5.1.3.7 polynomial_operations()

```
CLASSES.Polynomial.polynomial_operations (
              cls,
              pol1,
              pol2,
              choice)
```

```
@brief A method that allows to make operations sum and difference
:param pol1: First polynomial
:param pol2: Second polynomial
:param choice: Str "s" or "d" depends on operation
:return: Result of an operation
@see Polynomial.polynomial_multiplication
@see Polynomial.polynomial_division
```

5.1.3.8 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

  Polynomial class.

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)

Variables

- main.pol1 = input_polynomial("first")
- main.pol2 = input_polynomial("second")
- main.choice = int(input("Enter your choice: "))
- main.value = int(input("Enter your value: "))
- main.pol_sum = Polynomial.polynomial_operations(pol1, pol2, "s")
- main.pol_difference = Polynomial.polynomial_operations(pol1, pol2, "d")
- main.pol_multiplication = Polynomial.polynomial_multiplication(pol1, pol2)
- main.pol_division = Polynomial.polynomial_division(pol1, pol2)

6.3 test_clasees.py File Reference

Namespaces

- namespace test_clasees

Functions

- test_clasees.test_create ()
- test_clasees.test_count ()
- test_clasees.test_show ()
- test_clasees.test_sum ()
- test_clasees.test_difference ()
- test_clasees.test_multiplication ()
- test_clasees.test_division ()

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