

Assignment 1

Generated by Doxygen 1.8.13

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Chapter 1

Hierarchical Index

1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

complex_adt.ComplexT	7
triangle_adt.TriangleT	7
Enum	
triangle_adt.TriType	10

Chapter 2

Class Index

2.1 Class List

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

complex_adt.ComplexT	7
triangle_adt.TriangleT	
An ADT for a triangle represented by 3 side lengths	7
triangle_adt.TriType	10

Chapter 3

File Index

3.1 File List

Here is a list of all documented files with brief descriptions:

src/ triangle_adt.py	
Contains a class which represents a given triangle	11

Chapter 4

Class Documentation

4.1 `complex_adt.ComplexT` Class Reference

Public Member Functions

- `def __init__ (self, x, y)`
- `def real (self)`
- `def imag (self)`
- `def get_r (self)`
- `def get_phi (self)`
- `def equal (self, obj)`
- `def conj (self)`
- `def add (self, obj)`
- `def sub (self, obj)`
- `def mult (self, obj)`
- `def recip (self)`
- `def div (self, obj)`
- `def sqrt (self)`

Static Public Attributes

- `x`
- `y`

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

- `src/complex_adt.py`

4.2 `triangle_adt.TriangleT` Class Reference

An ADT for a triangle represented by 3 side lengths.

Public Member Functions

- `def __init__ (self, a, b, c)`
Constructor for [TriangleT](#).
- `def get_sides (self)`
Returns the side lengths of the triangle.
- `def equal (self, obj)`
Compares the current triangle and a given triangle.
- `def perim (self)`
Sums the side lengths of all 3 sides.
- `def area (self)`
Computes the area of the triangle.
- `def is_valid (self)`
Determines whether the given triangle is possible in Euclidian space.
- `def tri_type (self)`
Determines the type of the triangle.

Static Public Attributes

- `a`
- `b`
- `c`

4.2.1 Detailed Description

An ADT for a triangle represented by 3 side lengths.

Triangle defined by 3 side lengths

4.2.2 Constructor & Destructor Documentation

4.2.2.1 __init__()

```
def triangle_adt.TriangleT.__init__ (
    self,
    a,
    b,
    c )
```

Constructor for [TriangleT](#).

Represents a triangle with 3 given sides

Parameters

<i>a</i>	An integer representing the length of the first side
<i>b</i>	An integer representing the length of the second side
<i>c</i>	An integer representing the length of the third side

4.2.3 Member Function Documentation

4.2.3.1 area()

```
def triangle_adt.TriangleT.area (
    self )
```

Computes the area of the triangle.

Returns

The area of the triangle

4.2.3.2 equal()

```
def triangle_adt.TriangleT.equal (
    self,
    obj )
```

Compares the current triangle and a given triangle.

Returns

True if the triangles are equal

Parameters

<i>obj</i>	The triangle being compared to
------------	--------------------------------

4.2.3.3 get_sides()

```
def triangle_adt.TriangleT.get_sides (
    self )
```

Returns the side lengths of the triangle.

Returns

The three side lengths in a tuple

4.2.3.4 `is_valid()`

```
def triangle_adt.TriangleT.is_valid (
    self )
```

Determines whether the given triangle is possible in Euclidian space.

Returns

True if the triangle is physically possible

4.2.3.5 `perim()`

```
def triangle_adt.TriangleT.perim (
    self )
```

Sums the side lengths of all 3 sides.

Returns

The perimeter of the triangle

4.2.3.6 `tri_type()`

```
def triangle_adt.TriangleT.tri_type (
    self )
```

Determines the type of the triangle.

Returns

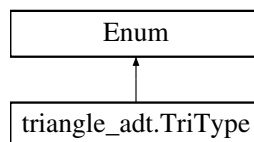
A [TriType](#) value representing the type of triangle

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

- [src/triangle_adt.py](#)

4.3 `triangle_adt.TriType` Class Reference

Inheritance diagram for `triangle_adt.TriType`:



Static Public Attributes

- `int equilat = 1`
- `int isosceles = 2`
- `int scalene = 3`
- `int right = 4`

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

- [src/triangle_adt.py](#)

Chapter 5

File Documentation

5.1 src/triangle_adt.py File Reference

Contains a class which represents a given triangle.

Classes

- class [triangle_adt.TriangleT](#)
An ADT for a triangle represented by 3 side lengths.
- class [triangle_adt.TriType](#)

5.1.1 Detailed Description

Contains a class which represents a given triangle.

Author

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Date

01/18/2020

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