Selected Project Euler Exercises

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Contents

Chapter 1

Namespace Index

1.1 Packages

Here are the packages with brief descriptions (if available):

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

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

Chapter 3

Class Index

3.1 Class List

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

Chapter 4

File Index

4.1 File List

Here is a list of all files with brief descriptions:

Chapter 5

Namespace Documentation

5.1 cards Namespace Reference

Classes

- class Hand

Functions

- def cards_cmp (a, b)
- def denom (card)

5.1.1 Function Documentation

5.1.1.1 def cards.cards_cmp (*a, b*)

5.1.1.2 def cards.denom (*card*)

5.2 combinatorics Namespace Reference

Functions

- def fib (n)
- def digits (n)
- def nub (nums)
- def has_square (n)

5.2.1 Function Documentation

5.2.1.1 def combinatorics.digits (*n*)

```
The digits of the argument, not counting the sign.
```

5.2.1.2 def combinatorics.fib (*n*)

```
It is possible to compute N'th Fibonacci number analytically,
but I was asked not to do this, and to keep it simple. So, here
you have the iterative version.
```

5.2.1.3 def combinatorics.has_square (*n*)

```
Returns True iff n contains a perfect square as a factor.
```

5.2.1.4 def combinatorics.nub (*nums*)

```
Returns a copy of nums with duplicates removed.  The numbers
in nums will be solrted in increasing order.
```

5.3 primes Namespace Reference

Functions

- def primes_seq (n)
- def is_next_prime (n, sieve)
- def is_prime (n, sieve)
- def next_prime (sieve)
- def primes
- def odd_composite ()
- def factors (n)

5.3.1 Function Documentation

5.3.1.1 def primes.factors (*n*)

```
Generates all prime factors of n.
```

5.3.1.2 def primes.is_next_prime (*n, sieve*)

```
Tests whether n is prime.  Sieve should contain all primes less than n.
```

5.3.1.3 def primes.is_prime (*n, sieve*)

5.3.1.4 def primes.next_prime (*sieve*)

```
Given the sieve containing primes searches for the prime greater than the
last element of the sieve, such that there are no primes less than this
one which are not in the sieve.
```

5.3.1.5 def primes.odd_composite ( )

```
Iterator.  Generates odd composite numbers.
```

5.3.1.6 def primes.primes (*n* = None)

```
Iterator.  Generates primes.
```

5.3.1.7 def primes.primes_seq (*n*)

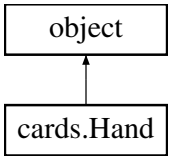
```
Generates a sequence of primes up to n.
```

Chapter 6

Class Documentation

6.1 cards.Hand Class Reference

Inheritance diagram for cards.Hand:



Public Member Functions

- def __init__ (self, cards)
- def n_of_a_kind (self, n)
- def royal_flush (self)
- def straight_flush (self)
- def four_of_a_kind (self)
- def full_house (self)
- def flush (self)
- def straight (self)
- def three_of_a_kind (self)
- def two_pairs (self)
- def one_pair (self)
- def value (self)
- def scoring_cards (self, score)
- def break_tie (self, other)
- def __lt__ (self, other)
- def __le__ (self, other)
- def __eq__ (self, other)
- def __ne__ (self, other)
- def __gt__ (self, other)
- def __ge__ (self, other)

6.1.1 Constructor & Destructor Documentation

6.1.1.1 def cards.Hand.__init__ (*self, cards*)

6.1.2 Member Function Documentation

6.1.2.1 def cards.Hand.__eq__ (*self, other*)

6.1.2.2 def cards.Hand.__ge__ (*self, other*)

6.1.2.3 def cards.Hand.__gt__ (*self, other*)

6.1.2.4 def cards.Hand.__le__ (*self, other*)

6.1.2.5 def cards.Hand.__lt__ (*self, other*)

6.1.2.6 def cards.Hand.__ne__ (*self, other*)

6.1.2.7 def cards.Hand.break_tie (*self, other*)

6.1.2.8 def cards.Hand.flush (*self*)

6.1.2.9 def cards.Hand.four_of_a_kind (*self*)

6.1.2.10 def cards.Hand.full_house (*self*)

6.1.2.11 def cards.Hand.n_of_a_kind (*self, n*)

6.1.2.12 def cards.Hand.one_pair (*self*)

6.1.2.13 def cards.Hand.royal_flush (*self*)

6.1.2.14 def cards.Hand.scoring_cards (*self, score*)

6.1.2.15 def cards.Hand.straight (*self*)

6.1.2.16 def cards.Hand.straight_flush (*self*)

6.1.2.17 def cards.Hand.three_of_a_kind (*self*)

6.1.2.18 def cards.Hand.two_pairs (*self*)

6.1.2.19 def cards.Hand.value (*self*)

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

- cards.py

Chapter 7

File Documentation

7.1 cards.py File Reference

Classes

- class cards.Hand

Namespaces

- cards

Functions

- def cards.cards_cmp (a, b)
- def cards.denom (card)

7.2 combinatorics.py File Reference

Namespaces

- combinatorics

Functions

- def combinatorics.fib (n)
- def combinatorics.digits (n)
- def combinatorics.nub (nums)
- def combinatorics.has_square (n)

7.3 primes.py File Reference

Namespaces

- primes

Functions

- def primes.primes_seq (n)
- def primes.is_next_prime (n, sieve)
- def primes.is_prime (n, sieve)
- def primes.next_prime (sieve)
- def primes.primes
- def primes.odd_composite ()
- def primes.factors (n)

Index