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Chapter 1

Functions

1.1 bigrange – range-like generator functions

1.1.1 count – count up

`count(n: integer=0) → iterator`

`n` まで数え上げる。 . [itertools.count](#) 参照。

`n` must be int, long or rational.Integer.

1.1.2 range – range-like iterator

`range(start: integer, stop: integer=None, step: integer=1)`
`→ iterator`

多倍長対応の range である。

It can generate more than `sys.maxint` elements, which is the limitation of the `range` built-in function.

The argument names do not correspond to their roles, but users are familiar with the `range` built-in function of Python and understand the semantics. Note that the output is not a list.

Examples

```
>>> range(1, 100, 3) # built-in
[1, 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34, 37, 40, 43, 46,
 49, 52, 55, 58, 61, 64, 67, 70, 73, 76, 79, 82, 85, 88, 91,
```

```

94, 97]
>>> bigrange.range(1, 100, 3)
<generator object at 0x18f8c8>

```

1.1.3 arithmetic_progression – arithmetic progression iterator

```

arithmetic_progression(init: integer, difference: integer )
    → iterator

```

Return an iterator which generates an arithmetic progression starting from `init` and `difference` step.

1.1.4 geometric_progression – geometric progression iterator

```

geometric_progression(init: integer, ratio: integer )
    → iterator

```

Return an iterator which generates a geometric progression starting from `init` and multiplying `ratio`.

1.1.5 multirange – multiple range iterator

```

multirange(triples: list of range triples ) → iterator

```

Return an iterator over Cartesian product of elements of ranges.

Be cautious that using `multirange` usually means you are trying to do brute force looping.

The range triples may be doubles (`start, stop`) or single (`stop,`), but they have to be always tuples.

Examples

```

>>> bigrange.multirange([(1, 10, 3), (1, 10, 4)])
<generator object at 0x18f968>
>>> list(_)
[(1, 1), (1, 5), (1, 9), (4, 1), (4, 5), (4, 9), (7, 1),
 (7, 5), (7, 9)]

```

1.1.6 `multirange_restrictions` – multiple range iterator with restrictions

```
multirange_restrictions(triples: list of range triples, **kws: keyword arguments)  
    → iterator
```

`multirange_restrictions` is an iterator similar to the `multirange` but putting restrictions on each ranges.

Restrictions are specified by keyword arguments: `ascending`, `descending`, `strictly_ascending` and `strictly_descending`.

A restriction `ascending`, for example, is a sequence that specifies the indices where the number emitted by the range should be greater than or equal to the number at the previous index. Other restrictions `descending`, `strictly_ascending` and `strictly_descending` are similar. Compare the examples below and of [multirange](#).

Examples

```
>>> bigrange.multirange_restrictions([(1, 10, 3), (1, 10, 4)], ascending=(1,))  
<generator object at 0x18f978>  
>>> list(_)  
[(1, 1), (1, 5), (1, 9), (4, 5), (4, 9), (7, 9)]
```

Bibliography