pk3hunum

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pykit3 is is a collection of toolkit in python3.

CHAPTER 1

Documentation for the Code

pk3hunum convert numbers(or numbers in *dict* or *list*) to human readable format in string.

```
>>> hunum(103425)
'101.0K'
>>> hunum({ 'total': 10240, 'progress': [1, 1024*2.1, 1024*3.2], })
{'total': '10K', 'progress': ['1', '2.10K', '3.20K']}
>>> parsenum('5.2K')
5324.8
>>> parsenum('10%')
0.1
```

`pk3hunum.`**`value_to_unit`**

map of int to unit, e.g.: *1024* -> *"K"*, *1024*^{2} -> *"M"*.

Usage:

```
>>> value_to_unit[1024**2]
'M'

>>> unit_to_value['K']
1024
```

Type dict

`pk3hunum.`**`unit_to_value`**

reverse map of *value_to_unit*.

Type dict

1.1 Functions

`pk3hunum.`**`hunum`**(*data*, *unit=None*, *include=None*, *exclude=None*)

hunum convert number or dict/list of number to string in a format easy to read for human.

Parameters

- **data** – could be a primitive type: *int* or *float*, or a non-primitive type object *list* or *dict*.
  - For primitive type like *int*, it converts it to string.
  - For non-primitive type like *dict*, it traverse recursively over all of its fields and convert them to string.
- **unit** (*int*) – specifies the unit of the number in the result string. It could be one of: *1024* (K), 1024^2 (M) . . . 1024^8 (Y).

  If it is None, a proper unit will be chosen to output the shortest string. For example, for *102400* it chooses *K*. For *10240000* it chooses *M*.
- **include** (*bool*) – specifies to convert only a subset of the keys of a *dict data*. It could be a *list*, *tuple* or *set* of keys.
  - It has no effect on a primitive *data*.
  - It is not passed to sub *dict* or *list*.
- **exclude** (*bool*) – specifies **NOT** to convert some of the keys of a *dict data*. It could be a *list*, *tuple* or *set* of keys.
  - It has no effect on a primitive *data*.
  - It is not passed to sub *dict* or *list*.

Returns

int/dict/list.

- For a primitive type data, it returns a string representing the number.
- For a *dict* or *list*, it makes a duplicate of *data* and convert its number fields. It leaves the original *data* intact.

`pk3hunum.`**`parsenum`**(*data*, *safe=None*)

Parse humanized number string like *10.5K* to *int* or *float*. It also parses percentage number to *float*.

Parameters

- **data** (*str*) – number string.

  Valid units are: *k*, *m*, *g*, *t*, *p*, *e*, *z* and *y*. Suffix *b* and *i* will be ignored. For example: *10.1K*, *10.1k*, *10.1Kb* and *10.1Ki* are all the same.

  For percentage number, valid unit is *%*. For example: *10.1%*.
- **safe** – if *safe* is *True* and data is not a valid number string, it silently returns the original *data*, instead of raising an *ValueError*.

  By default it is *False*.

Returns int/float.

`pk3hunum.`**`parseint`**(*data*, *safe=None*)

Same as *parsenum* but it always casts result to a *int* number.

CHAPTER 2

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