Package 'nutrition'

September 28, 2023

Title Useful Functions for People on a Diet

Version 1.1.0

Description Contains a collection of functions for performing different kinds of calculation that are of interest to someone following a diet plan. Calculators for the Basal Metabolic Rate are based on Mifflin et al. (1990) <doi:10.1093/ajcn/51.2.241> and McArdle, W. D., Katch, F. I., & Katch, V. L. (2010, ISBN:9780812109917).

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URL https://wleoncio.github.io/nutrition/

BugReports https://github.com/wleoncio/nutrition/issues

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R topics documented:

bmr *Basal Metabolic Rate*

Description

Estimates the basal metabolic rate of a person.

Usage

```
bmr(weight, age, fat, height, activity = 1.45, method = "msj", gender = "male")
```

Arguments

weight	weight, in kilograms
age	age, in years
fat	fat proportion in body
height	height, in centimeters
activity	activity level (a scalar between 1 and 2)
method	calculation method ("msj" for Mifflin-St. Jeor or "kma" for Katch-McArdle)
gender	"male" or "female"

Value

The Basal Metabolic Rate, in kilocalories

Author(s)

Waldir Leoncio

References

https://www.calculator.net/bmr-calculator.html

Mifflin, M. D., St Jeor, S. T., Hill, L. A., Scott, B. J., Daugherty, S. A., & Koh, Y. O. (1990). A new predictive equation for resting energy expenditure in healthy individuals. The American journal of clinical nutrition, 51(2), 241-247.

McArdle, W. D., Katch, F. I., & Katch, V. L. (2010). Exercise physiology: nutrition, energy, and human performance. Lippincott Williams & Wilkins.

Examples

```
bmr(67, 40, .12, 178) # for an individual with 12% body fat
```

budget *Calorie budget*

Description

Calculates a calorie budget

Usage

```
budget(wt_delta_per_week, bmr)
```

Arguments

wt_delta_per_week	expected change in weight per week
bmr	Basal Metabolic Rate, in kilocalories

Value

Calorie targets per day

Author(s)

Waldir Leoncio

References

https://help.loseit.com/hc/en-us/articles/115007245847-How-the-Calorie-Budget-is-Calculated

Examples

```
BMR <- bmr(66, 40, .12, 178, method = "kma")
budget(0, BMR) # for weight maintenance with a weekend bonus
budget(.25, BMR) # for a slight weight gain
```

carbPct *Percentage of carbs in food*

Description

Calculates how much of the energy content comes from carbohydrates.

Usage

```
carbPct(fat, carbs, protein, fiber = 0, kcal = 0)
```

Arguments

fat	grams of fat per unit of measurement (e.g. 100 g)
carbs	grams of carbohydrates per unit of measurement (e.g. 100 g)
protein	grams of protein per unit of measurement (e.g. 100 g)
fiber	grams of fiber per unit of measurement (e.g. 100 g)
kcal	total energy per unit of measurement (e.g. 100 g)

Value

percentage of energy from carbs

Author(s)

Waldir Leoncio

Examples

```
carbPct(57, 11, 19, 8)
```

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fiberGrams *Calculate the amount of fiber in food*

Description

Sometimes, nutritional labels fail to inform the amount of fiber it contains. This function helps one estimate this given other parameters.

Usage

```
fiberGrams(kcal, fat, carbs, protein)
```

Arguments

kcal	total energy per unit of measurement (e.g. 100 g)
fat	grams of fat per unit of measurement (e.g. 100 g)
carbs	grams of carbohydrate per unit of measurement (e.g. 100 g)
protein	grams of protein per unit of measurement (e.g. 100 g)

Value

Grams of fiber per unit of measurement

Author(s)

Waldir Leoncio

Examples

```
fiberGrams(362, 17, 11, 40)
```

`macroDistro` *Macro distribution*

Description

Calculates the percentage of energy from each macronutrient.

Usage

```
macroDistro(fat, carbs, protein, fiber = 0)
```

Arguments

`fat`	grams of fat per unit of measurement (e.g. 100 g)
`carbs`	grams of carbohydrates per unit of measurement (e.g. 100 g)
`protein`	grams of protein per unit of measurement (e.g. 100 g)
`fiber`	grams of fiber per unit of measurement (e.g. 100 g)

Value

vector with the energy ratio from each macronutrient

Author(s)

Waldir Leoncio

Examples

```
macroDistro(12, 40, 32, 1)
macroDistro(12, 40, 32)
```

`pct_of_day` *Table of hour of day and percentage of day*

Description

Table of hour of day and percentage of day

Usage

```
pct_of_day
```

Format

An object of class `data.frame` with 25 rows and 2 columns.

`totalKcal` *Total calories*

Description

Calculate the total caloric content of an item given the weight of its macronutrients

Usage

```
totalKcal(fat, carbs, protein, fiber = 0)
```

Arguments

`fat`	grams of fat per unit of measurement (e.g. 100 g)
`carbs`	grams of carbohydrates per unit of measurement (e.g. 100 g)
`protein`	grams of protein per unit of measurement (e.g. 100 g)
`fiber`	grams of fiber per unit of measurement (e.g. 100 g)

Value

Total energy content per unit of measurement

Author(s)

Waldir Leoncio

Examples

```
totalKcal(48, 1.7, 29)
```

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