
Haskell — Body mass index

P87082_en

The *body mass index* (BMI) is an attempt to quantify the amount of tissue mass (muscle, fat, and bone) in an individual, and then categorize that person as underweight, normal weight, overweight, or obese based on that value.

The BMI was conceived by Adolphe Quételet between 1830 and 1850 its formula is

$$BMI = \frac{m}{h^2},$$

where m is the mass of an individual (in kilograms) and h is its height (in meters).

Its interpretation (only for adults) is the following:

BMI	Interpretation
less than 18	underweight
from 18 to 25	normal weight
from 25 to 30	overweight
from 30 to 40	obese
more than 40	severely obese

Write a Haskell program to interpret the body mass index of several individuals.

Input

Input is organized in lines. Each line has three elements separated with whitespaces: the name, the weight and the height. The last line is special and only contains an asterisk.

Output

For each individual, print his/her name and the interpretation of his/her BMI.

Observation

In order to solve this problem in Haskell, write a *main* action and choose the GHC compiler.

Sample input

```
John 76 1.80
Mary 66 1.50
Phil 100 2.01
Raymond 90.9 1.70
Ann 40 1.70
Edith 120 1.60
*
```

Sample output

```
John: normal weight
Mary: overweight
Phil: normal weight
Raymond: obese
Ann: underweight
Edith: severely obese
```

Problem information

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