Nim Exercises

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Estrutura da apresentação:

1. Apresentação teórica, essencialmente explicar o que está na General Information

2. Mostrar slides rápidos com sintaxe, só para mostrar o material que eles podem consultar durante os exercícios

3. Exercícios (este documento) em que se aplica tudo o que mostrámos nos slides

4. Exercícios de macros (também neste documento, mas noutra secção)

Part I - Basic Syntax

In this part we'll go over basic programming syntax, like declaring variables, if clauses, loops and other key aspects of **Nim**. For the following problems, your program should ask the user for values.

1. Print a hello world.

2. Write a program that reads a value in ^oC and prints its value in ^oF. (F = 1.8C + 32)

3. Make an IMC calculator (Weight / (Height*Height)) and print the user category depending on the value.

IMC (kg/m²):	<18.5	[18.5, 25[	[25,30[	30 or more
Category	Underweight	Healthy	Overweight	Obese

4. Create a program that receives two numbers between between 0 and 100 and counts up or down until the first number is equal to the second or if it reaches either limit.

Part II - Procedures

Nim functions are called Procedures.

1. Start by creating procedures to solve exercises **3.** and **4.** from **Part I**.

2. Create a **max(x,y)** procedure that takes 2 values and returns the biggest.

3. Implement a **tax(r)** that implements the following:

$$tax(r) = \begin{cases} 0.1r & \text{if } r \leq 1000 \\ 0.2r - 100 & \text{if } 1000 < r \leq 2000 \\ 0.3r - 300 & \text{if } 2000 < r \end{cases}$$

Part III - Data Structures

Now that we can create variables let's go over some data structures and how to use them.

1. Write a procedure that works like **max()**, but takes a sequence as input.

Part IV - Exercícios mais gerais?

Aqui podemos pôr alguns exercícios mais complexos que usem tudo o que falámos antes.

Part V - Macros

This is where it gets fun!