CSCA08 Fall 2017
Week 2 - ALGORITHMS

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RECALL

- Algorithm:
    - list of instructions
    - followed step by step.

- Programming language = A set of instructions that the computer can understand

- Code = An algorithm written as a set of instructions in a programming language

- How to design an algorithm for a given problem?
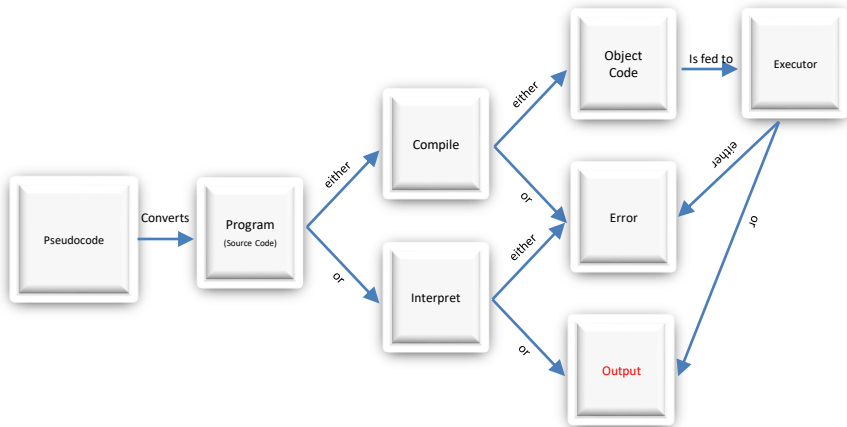   - **Break it down** until you can find a programming language instruction for that.

EXAMPLE

- How many calories does Dr. Harrington burn in a semester by lecturing you, if we know for every spoken word 0.008 calorie is burned?
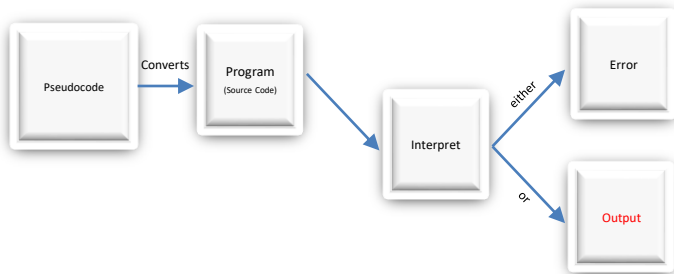
get number of weeks
get number of lectures
get number of words
calorie_per_second = 0.008
hour_to_second = 3600
calories = week * lecture * hour_to_second * word * calorie_per_second
print calories

Transfer the pseudocode to Wing!

THAT'S NOT ALL!

PYTHON

Errors

- **Syntax:** refers to the structure of a program
- **Runtime (AKA exception)**: refers to the problems that appear when you run the program
- **Semantic (AKA Logical)**: refers to the meaning of the code

- In case an **error** is issued, go back to your code, correct it and run it again.

- **To Wing**

Find the roots of quadratic equation $ax^2 + bx + c$

1. What information do we need to solve this problem? (Input)
2. How do we compute that? (Process)
3. (What would be/How to present) the result? (Output)