

Sequential Execution and Scripts

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Opening Discussion

- Let's talk about the interclass problem. What answer did you get? How did you get it?
- Minute Essays
 - Are there situations where people use other base systems?
 - How can you accept other bases as input and convert it to something else as output?
 - Difference between val and var?
 - You can use `chmod` and `chown` to change permissions when logged in remotely.
 - When are we going to start programming?

Variables

- It is very common to want to represent values with names.
- A variable is a name that we use to represent a value.
- In Scala we can declare variables using `val` or `var`.
 - `val name:Type = expression`
 - `var name:Type = expression`
- A `val` can't change its value, a `var` can.
- The colon and type generally optional.

Tuples

- Another type in Scala is the Tuple type.
- A tuple has comma separated values in parentheses.
- They give us a way to handle a fixed set of associated values.
- Assignment into a tuple does pattern matching.

Scripts

- We have spent most of our time in the REPL entering one statement at a time.
- When we want to do things repeatedly it is nice to put the commands in a file called a script.
- We can use vi to write a script and put Scala commands in the file.
- We can run it by specifying the file name after the command scala.
- Alternately, we can load it into the REPL.

Sequential Execution

- When you put commands into a script, they are normally executed one after the other from top to bottom.
- This is what we call sequential execution and it is the default way things happen.
- Order can be very significant for the instructions in a program.

Standard Input

- Scala provides a whole set of functions you can call to read from standard input.
 - `readInt()`
 - `readDouble()`
 - `readLine()`
 - And many more
- This can make your scripts far more useful as they can be used with different values each time you run them.

Some Problems

- We are still a little limited in that we can only do simple math and formatting, but let's try to do some things with that in scripts.
- We'll start with formatting money.
- Calculating hourly wages?
- Taking averages of grades?
- Suggestions?

Minute Essay

- What questions do you have about things?
- On Monday I will call on two students to actually present their interclass problem solutions.
- Interclass Problem:
 - Write a script that you enter a four digit course number into and it tells you how many hours the course is.