### Challenge 1 *mytype()*

Write a function that performs the same action as type(), and can recognize integers, floats, strings, and lists. Do this by first using str(), and then reading the string. Assume that variables are only strings if they need to be. For example, strings can look like "a4s72e", but not like "[2,3,4]".

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### Challenge 2 *findpfds()*

Write a function that takes as input a list of filenames (such as "IMG2309.jpg", "lecture1.pdf", "homework.py"), and lists the names of all PDF files, without extension ("lecture1").

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### Challenge 3 *names()*

Write a function that takes names of the form "Firstname Lastname" and outputs them in the form "Lastname, Firstname".
As a next step, allow for middle names in the input, which are added as middle initials: "Lastname, Firstname M."

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### Challenge 4 *findemail()*

Write a function that takes as input a URL, and outputs any email addresses on this page. Focus on academic personal pages, and write a script that gets around tricks people use to hide their email addresses, such as "rombach AT ucla DOT edu", or even "firstname DOT lastname AT ucla DOT edu". For the latter, you can, for example, use the fact that the name will certainly appear somewhere on the page.

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### Challenge 5 *happiness()*

Write a function that uses the Dodds *et al* happiness dictionary to rate the happiness of a piece of english text.

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