**Moving in C++ and Python**

In this example, we'll be comparing the execution speed of C++ and Python implementations of the move function that Kalman filters use to update their estimate of a car's location as it moves.

The move function does two things:

1. It shifts a set of prior beliefs (about the car's location) in whichever direction the car moves.
2. It adds some uncertainty to the beliefs because our model for car movement is not perfect.

A car is constantly moving, so **this move function needs to be fast to keep up with the state of the car**.

**Execution vs. Development Time**

You'll be comparing the execution time of the *same* move function implemented in Python and in C++. You're also encouraged to explore the code and think about how long it might take for you to program this function in either language; there is often a trade off between speed of execution and speed of developme

## But Why?

You probably noticed that C++ ran significantly faster than Python. In the next course you'll learn more about why C++ is able to run so much faster.

A screenshot of a cell phone

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