Challenge

Overview

The scenario for this challenge revolves around a group of directionally challenged students trying not to get lost whilst attending a Sun tech day. Your challenge …

...is to create a simple two-dimensional GPS tracking system to help them navigate their way through London to the Sun Tech Day.

It should be capable of holding information about:

1. People - their names and locations.
1. Buildings – their street addresses and locations.

We recommend using vectors to represent people's/buildings' positions and using a fixed point as a point of origin to keep things simple. (Every object inside the system moves relative to (0i + 0j) instead of moving relative to an object).

Basic Task

Project specification:

1. Add People into the system.
1. Add Buildings into the system.
1. Move People's positions.
1. Find the distance between two given People and/or Buildings in the system.
1. Find the bearing from North, in degrees, to get to a person or building in the system from a given object.

Extension Task

Produce an interactive text display to produce information about the people and buildings.

Suggested functionality includes:

- Print out information on all the people and all the buildings in the system,
- Print out the closest person or building to a given location
- Print out all the buildings and people within a certain distance, from a given location.
- **OPTIONAL:** Graphical user interface as an alternative to an interactive text based display.