1   Introduction

Computers only do what they are told and we must be very literal when programming them. The ability to read between the lines and determine what was meant rather than what was said is a skill computers lack.

During class groups will write directions for a visitor who is new to Boise to visit three landmarks. The directions should be very literal so that a computer, possibly one that may be part of a driver-less car, can follow them. Each team will swap directions and the goal is to identify the landmarks.

2   Individual Lab

Watch this video on what it takes to give instructions to make a peanut butter and jelly sandwich: `https://youtu.be/euFj8D1A1Kw`.

3   Group Assignment

Please complete the following questions in groups of 3-4 people. Each team will consist of:

- The **manager**, responsible for coordinating the work of the team. The manager is the person who was born the furthest from Boise.

- The **spokesperson**, who will report your group's work to the rest of the class. The spokesperson is the person commuting longest to class today.

- The **scribe**, who will be responsible for writing down your team's findings. The scribe is the person who's birthdays is coming up next.

- The **timekeeper**, who will keep track of time for each exercise. The timekeeper is the person who was not assigned a role already. In case of a three-person group, the manager takes the role of a timekeeper.

One person should not have more than one role (except for the manager/timekeeper combo), so if a person who already was assigned a task meets the criteria for another one, the person who is next in line (i.e., second-longest commute) takes this role.

1. (10 min) Write directions for a visitor who is new to Boise using the starting point, destination, and required landmarks in the attached envelope. Each instruction should be simple and start on a new line, as if you are programming a computer. You may use the provided map of Boise to help you with planning the route and assume that the visitor has the same map to guide them. In your directions use the words landmark 1, landmark 2, destination, etc. and

not Capitol Building, Century Link Arena, etc. The scribe will write down the directions on a separate piece of paper with the team number at the top of the page.

2. (10 min) Swap your directions with another team. Using the other team's instructions and your map, try to follow the route from the hotel to the destination point. Identify which landmarks you pass by, and what is your destination.

   Please be literal in following instructions and do <u>not</u> use your knowledge of Boise to identify a landmark. If a step in the other group's instructions seems impossible or requires additional explanation, proceed by attempting to complete the instruction in an obtuse manner.

3. (5 min) Once the answers are posted, identify whether you got the destination and landmarks correctly. Reflect on the following

   - Which part of the exercise did you find to be the easiest?
   - How was this activity similar/different to following an algorithm?
   - What characteristics of a good algorithm did your directions have (the ones you created and the ones you followed)?
   - What characteristics of a good algorithm did your directions not have that may have helped?

   The spokesperson should be prepared to report your reflections to the rest of the class.