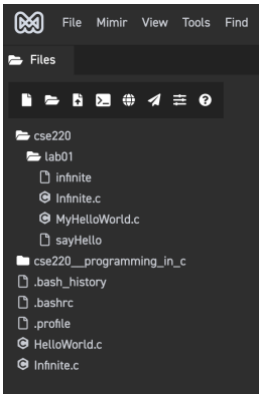
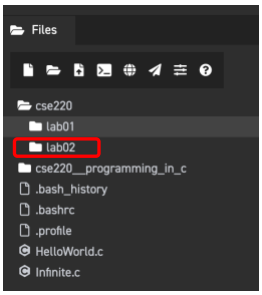
Lab Assignment #2: C Fundamentals

Getting started

1. Enter Mimir IDE, your directories should be like this after you completed lab01 last Friday:



2. Change into the cse220 directory (use a Unix command we learned from class and the last lab).
3. Create a new directory called lab02 (use a Unix command we learned from class and the last lab). If you succeed in this step, you will notice a new folder in the left window:



4. Change into the new directory (use a Unix command we learned from class and the last lab).
5. Implement the programs below in your lab02 directory.

Program 1 Description

Copy the following code into a new file, save it in **/home/(your_username)/cse220/lab02/** and name it as **OopsImBroken.c**. As the name suggests, this code is broken. **Compile** (use a Unix command we learn from class and last lab) and **run** it (use a Unix command we learn from class and last lab) to see what is going wrong, and then edit the code so that it runs correctly.

```
#include <stdio.h>
int main(void) {
	int x;
	float y;
	printf("Enter in a decimal number with at least 2 digits after the decimal
		point: \n");
	scanf("%d", y);
	printf("Enter in an integer number: \n");
	scanf("%f", x);
	printf("Here is the first number with only 1 decimal place: %0.3f \nHere is the
		second number: %f ", &x, &y);
	return 0;
}
```

Program 2 Description

You are to write a program that computes the total distance travelled by a moving object based on its initial velocity, its acceleration, and the travel time. Call your program **travel.c** and save it in **/home/(your_username)/cse220/lab02/**.
The distance travelled can be computed according to the following formula:

$$\texttt{distance} = \texttt{acc} * \texttt{time}^2/2 + \texttt{velocity} * \texttt{time}$$

where

`distance`:	is the distance travelled meters
`acc`:	is the acceleration in m/s^2
`velocity`:	is the initial velocity in m/s
`time`:	is the travel time in seconds

Your program should ask the user for the velocity in m/s, the acceleration in m/s^2 and the time in seconds. Your program should display the output formatted according to the following example:

```
The initial velocity is: 10 m/s
The acceleration is: 2.5 m/s^2
The total distance travelled after 20 seconds is: 700 meters
```

Compile your program and call your output **TravelLog**.
Test your program by running it 3 times with the following input:

Initial Velocity (m/s)	Acceleration (m/s^2)	Time (s)	Expected distance computed
18.5	8.5	20	*2070*
12.6	2.3	4500	*23344200*
9	1	3600	*6512400*

When you are finished, demonstrate your working executables for Program 1 and Program 2 for the TA.