

CS21 Chapter 2 Lab Exercises

For each of the exercises, follow this process: a) develop pseudocode, b) then use that as comments, c) then, start coding. Be sure to use the specified name for your python file.

Remember to give meaningful names to variables, and to use named constants to avoid magic numbers.

- 1.) (runningSpeed.py) Write a program that asks the user how many laps they ran on a track (can be a decimal value) and how long they ran in minutes and seconds (integer values only). The program should then report the average speed for their run in miles per hour (rounded to one decimal place). Each lap on a track is a quarter mile. Make sure to use named constants instead of magic numbers.

Example run:

```
How many laps did you run? 4.5
For how many minutes did you run? 12
For how many seconds did you run? 36
You had an average speed of 5.4 mph!
```

- 2.) (cmToInches.py) Write a simple program that asks the user for a distance in centimeters (can be a decimal value) and then reports that distance in inches (rounded to two decimal places). 1 inch is 2.54 centimeters.

Example run:

```
What is the length in centimeters? 36.3

36.30 centimeters is 14.29 inches!
>>>
```

- 3.) (dollarsConversion.py) Write a simple program that asks the user for an amount in US currency and the current conversion rate to a currency of their choosing. The program should then report the amount in the provided currency formatted to 2 decimal places. The program should use the name of the currency provided by the user in later prompts.

Example Runs:

```
How much money in US Dollars would you like to exchange? 42

What currency would you like to receive? Canadian Dollars

What is the exchange rate (US Dollars to Canadian Dollars)? 1.33532

$ 42.00 US dollars is 56.08 Canadian Dollars
```