# COP 3223 – Sample Programming Assignment #1

## Objective
1. To give students practice at typing in, compiling and running a simple program.
2. To learn how to read in input from the user.
3. To learn how to use assignment statements and arithmetic expressions to make calculations.

## Problem:  Approaching Trains Problem
Imagine a two-way straight railway and two trains approaching each other from opposite directions.  You need to compute how long (in minutes) would it take for these trains to come side by side.  You will also compute how many miles each train travels till then. Write a program to read in the distance (in miles), speeds of the trains (in miles per hour), and output the time to meet (in miles and use 3 digits of precision after the decimal point for displaying it – for C Programs Only) and the distance traveled by each train (use 2 digits of precision – for C Programs Only).

## Input Specification
1.  The distance (in miles) between the trains will be a positive integer.
2.  The speed of trains (in miles per hour) will be positive integers.

## Output Sample
Here is one sample output of running the program. Note that this test is NOT a comprehensive test. You should test your program with different data than is shown here based on the specifications given. The user input is given in *italics* while the program output is in bold.

## Sample Run #1
**What is the distance between trains in miles?**
*24*
**What is the speed of the first train in miles per hour?**
*12*
**What is the speed of the second train in miles per hour?**
*16*
**It will take 51.429 minutes for the trains to meet.**
**The first train will travel 10.29 miles.**
**The second train will travel 13.71 miles.**

**Note: If you are solving this in Python, don't worry about precision in the digits of output. Just output the full floating point number (which will have many digits after the decimal.)**