

## ICS Spring 2017

### Problem Set 5

#### Exercise 1 – Recursive List Sum

Design a function that accepts a list of numbers as an argument. The function should recursively calculate the sum of all the numbers in the list and return that value.

#### Exercise 2 – Employee Class

Write a class named Employee that holds the following data about an employee in attributes: name, ID number, department, and job title.

Once you have written the class, write a program that creates three Employee objects to hold the following data:

Name	ID Number	Department	Job Title
Susan Meyers	47899	Accounting	Vice President
Mark Jones	39119	IT	Programmer
Joy Rogers	81774	Manufacturing	Engineer

The program should store this data in the three objects and then display the data for each employee on the screen.

#### Exercise 3 – Employee Management System

This exercise assumes that you have created the Employee class for Exercise 2. Create a program that stores Employee objects in a dictionary. Use the employee ID number as the key. The program should present a menu that lets the user perform the following actions:

- Look up an employee in the dictionary
- Add a new employee to the dictionary
- Change an existing employee's name, department, and the job title in the dictionary
- Delete an employee from the dictionary
- Quit the program

When the program ends, it should pickle the dictionary and save it to a file. Each time the program starts, it should try to load the pickled dictionary from the file. If the file does not exist, the program should start with an empty dictionary.