**Project 1**

**Objective:**

The purpose of this lab project is to expose you to writing programs using input, process, and output, in addition to formatting and displaying headings and footings in a report.

**Problem Specification:**

You are working for the Family Budget Assistance Center. Your boss has asked you to write and execute a program that will analyze family’s data. Input consists of the following:

**Family Name ( a string)**

**Family ID number (int)**

**Number in family (int)**

**Income (float)**

**Total debts (float)**

Your program should output the following:

1. An appropriate header.
2. The family’s name, identification number, number in family, income, and total debts.
3. Predicted family living expenses ($5000.00 per family member).
4. The monthly payment necessary to pay off the debt in one year.
5. The amount the family should save (family size \* 0.02\* (income – debt).
6. Your service fee (1% of the income).

Run your program for the following two families:

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**Name ID Number Size Income Debt**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

James Davis 1251 4 28,000.00 4800.00

Lisa James 1255 5 39,000.00 3200.00

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Output for the first family could be:

**%%%%%%%%%%%%%%%%%%%%%%%%%%%**

**Family budget Assistance Center**

**March 2011**

**Telephone: (800) 555-1234**

**%%%%%%%%%%%%%%%%%%%%%%%%%%%**

**Name James Davis**

**Identification number 51**

**Family size 4**

**Annual income $ 28000.00**

**Total debt $ 4800.00**

**Expected living expenses $ 20000.00**

**Monthly payment $ 400.00**

**Savings $ 1856.00**

**Service fee $ 280.00**

**Thank you for using your Family Budget Assistance Center.**

**Requirements:**

* Comment thoroughly. Include: your name, course #, date, and a brief explanation of does the program do.
* Following good structured programming practices, you should solve this program by hand before you try and write the code. You should calculate the results for each of the inputs before you write the program, and ensure that your program gives you the expected output for those inputs before submitting.
* Create two constants one for the living expense per person (5000.00) and for service rate (.01).
* Calculate using the two constants you declared, and whatever values the user enters.
* Output the report as listed above.

**Grading criteria:**

10 points Good programming practices: Proper spacing, comments, use of variables, and appearance of program.

10 points Program is consistent with programming coding standards.

10 points Flowchart or algorithm is handed-in and is correct.

10 points proper prompts and corresponding input statement for each input.

5 points Constants are used.

10 points Proper headings and titles are printed.

10 points Output is aligned using manipulators.

5 points Proper indentation in source program.

5 points Proper footing is printed.

20 points Program runs correctly and produces the intended results.

5 points multiple test runs are submitted (programs’ output)

**Submission Details:**

Submit a print-out of: The program, a flowchart or pseudo-code, multiple test runs.

Due On: 02/22/2016