University of Mauritius
Faculty of Engineering
Department of Computer Science & Eng.

CSE 1017Y –Computer Programming
2015/2016- Semester 1
Labsheet 7 – Files

Note: For all programs that require you to write into files, open the data file using notepad or any other text editor to verify that the data have actually been written.

1. Write a program that will allow a user to input a set of numbers (using 0 to stop input). The program will then calculate the square of each of the number and store the numbers and their squares in a file named **Squares.txt**, in a tabular format. Suppose user inputs 3 5 1 7 9 0, the file Squares.txt should contain:

Number	Square
3	9
5	25
1	1
7	49
9	81

2. Write a program to read the contents of the file **Squares.txt** and display the contents on the screen in the same format as in Question 1.
3. Write a program to read the contents of file **Squares.txt** and write the sum of all the numbers, the average of all the numbers, the largest number and the smallest number in a file named **Analysis.txt**, in the following format:

Sum	165
Average	55
Largest	81
Smallest	1

4. Write a program that copies the contents of a file **input.dat** into a file **output.dat**.
5. Write a program that merges the contents of two text files, **file1.txt** and **file2.txt** and merges their contents in a third file, **target.txt**.
6. Write a program that allows you to input the name of a file and it opens the file for output. The program allows you to continuously input an integer representing a student id number (a string), followed by three values of float types representing marks in three tests. The data are to be saved in the file. Perform a change of line after the information for each student. The program stops when you give an empty string for student id. Note: an empty string has value “”.
7. Write a program that opens the file you created in Question 6 (again, the file name will be input), reads the data, calculates and display the average

marks of each student and finally displays the student id and average marks of the student who scored the highest overall average.

8. For obtaining good crop yields, the amount of rainfall obtained and the amount of evaporation that has occurred each day have to be monitored. Evaporation, like rainfall, is measured in mm. Write a program that allows the input of rainfall and evaporation for a number of regions on a particular day and write them to a file. The program should allow the input of the file name. The regions will be numbered as 1, 2, 3 etc.
9. On any day, if the amount of rainfall exceeds the evaporation, it is considered to be a water surplus. If the rainfall is less than the evaporation, it is considered to be a water deficit. Write a program that opens the file created in question 8 (the file name will be input) and reads the data. It displays the region of highest water surplus, the rainfall and evaporation for that region as well as the surplus amount. It also displays the region of highest water deficit, the rainfall and the evaporation amount as well as the deficit. In case there has been no surplus or no deficit, the program should display messages accordingly.