EECS2301

Lab 4
Fall 2018

Lab Objectives

In this lab you will learn how to read from files and the use of loops and if statement in bash.

Problem 1

Write a small sed script to do the following
It reads a file with phone numbers. Then it prints the phone numbers with area code 416 or 747 only.
The input files will be tested on sed using -n option
the phone numbers are on the form
optional "+" followed by optional "1" followed by area code in parenthesis, followed by prefix then "-" then the 4 digits, for example
+1(416)736-2100 or
1(416)736-2100 or
(416)736-2100

The program displays only the phone numbers with area code 416 or 647.

It displays on the screen the following

submit 2031E lab_4 ph.sed

Problem 2

The same as in problem 1 but it adds to it displaying area code 555 numbers with the 555 replaced by xxx

submit 2031E lab_4 ph1.sed

Problem 3

Write a C program to calculate the value of the mortgage of a home.
The program starts by asking the user what is "The initial mortgage value: ", the user enters the values in dollars (no cents).
The the program asks about the mortgage rate "The mortgage rate: "The user enters the rate as a percentage floating point number without the "%" sign (see the example below). Note that there is only one space after the ":".
Then the program asks about duration (20, 30, xx years) "How many years: " the user enters the number of years as integer.
The program calculates the remaining value of the mortgage month by month and display the following

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For a mortgage of $xxxx for yyy years and interest rate of xx.xx%
mmm xxxx.ss

where mmm is the number of months since you started paying. It starts from 1 to 12 $\frac{3}{2}$ number of years.
mmm should be displayed in 3 digits right justified, followed by two tabs (no spaces), then the remaining in 2 decimal points. Keep in mind that the interest starts from day one, and you pay at the end of the first month.

Example of input/output files are in the lab section of the course.

submit 2031E lab_4 mort.c