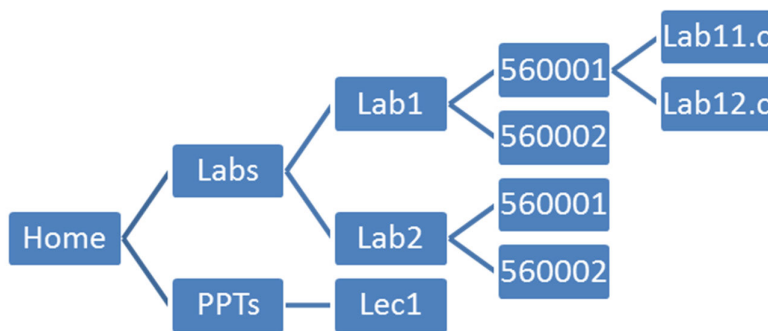Term Project 2/2017

Shell Script Programming

Score: 20 marks

Due Date: May 1, 2018

Form a group of 5 students to finish the following task.

Your task is to write a shell script program to help a teacher to grade student programs in a C programming course. Assume that the teacher stores the student programs in the Labs folder as shown in the following picture.

The format of the file name of the student program is Labxy.c where x the lab number and y is the question number in that lab. For example, Lab11.c means the Lab1 question 1 (assume that each lab has the maximum of 9 questions). Also assume that each program will have only one integer number as its output. The shell script will help teacher to automate check each lab. Two command line parameters need to be passed to the shell script, the first one is the Lab number and the second one is the correct output of the program. For example, if the shell script name is autocheck, the command

./autocheck Lab11 20

works as follows: it accesses to the file Lab11.c of each student, compiles the program, if no error occurs, runs the program and check the output. The program writes the score result of each student to a text file. The file must be named using the following format starting with "result" follows by the Lab that the program has just checked. For the above command the file must be name "resultLab11.txt".

The contents of the file is the score of each student for this lab in the following format studentid;score.

The criteria for the score is as follows, if compilation error a student will get 1 mark. If the program can run but the output is not correct a student will get 2 marks. If the output is correct the student

will get 3 marks. For example, if the Lab11.c of the student whose id is 5912345 cannot be compiled. The Lab11.c of the student whose id is 5912346 can run but the output is not 20. The Lab11.c of the student whose id is 5912347 can run and the output is not 20. When a teacher runs the program using the command

./autocheck Lab11 20

the file resultLab11.txt will be created and the contents of the file are as follows: per file. For example, science.txt stores the information of Faculty of Science students. The information of each student has 2 fields, student ID and full name. Each field is separated by a ";". The examples of students' data are as follows:

5912345;1

5912346;2

5912347;3

You do not need to submit me any report. You need to show me the complete programs and all team members must be able to explain each program line by line.