Uva Wellassa University of Sri Lanka
Faculty of Science and Technology
Department of Computer Science and Technology
300 level 2nd Semester Examination – Dec./Jan. 2017
CST321-3 System Level Programming (Repeat)

Uva Wellassa University

Instructions to candidates

Part B

Duration: Two (02) hours
Number of questions: Five (05)
Mark allocation: 60
Answer all the questions
Create separate folder for each question and upload the folders as a ZIP file to the CMS.
When you are uploading, rename the ZIP file using your 'Index Number' as shown in the example (i.e. UWU_EX_12_XXXX).
You are allowed to refer your own notes but sharing notes is strictly prohibited.

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1. Write a shell script to store employee details in ABC company in a file called "employeeinfo.csv". First, the operator needs to enter employee ID for each employee (i.e. 1,2, etc.) and then he enters the details based on the following menu.
   1) Full Name
   2) NIC number
   3) Address
   4) Continue
   5) Exit

   The option 1, 2 and 3 are used to get Full Name, NIC number and Address respectively for one employee. If the operator selects option 4, the system should return to the initial stage to request the next employee ID from the user. Option 5 allows the operator to exit from the system.

   (20 mark)

2. Write a shell script to calculate the gross salary of an employee.
   a. At the starting point of your script, the program should ask the basic salary of the employee
   b. According to the basic salary, HRA and DA will be calculated (HRA = 20% of basic salary, DA = 50% of basic salary)
   c. Gross salary will be calculated by adding HRA and DA to the basic salary
   d. As the output, the program should print the gross salary in the shell

   (10 mark)

3. Write a shell script to get five (05) inputs as command line arguments. Then sort them according to the ascending order. Now get the sum of three (03) middle numbers (except for 1st and 5th number) and print that value on the shell. You can assume that the command-line arguments are valid integers.

   (10 mark)

4. Write a shell script to do following things.
    a. Take all the files which are in the '/' directory to a file called 'filelist' under '/home' directory
    b. Print the number of files available in the 'filelist'
    c. Sort all the file names according to ascending order
    d. Convert file names in to upper case letters
    e. Print file names from file five (05) to ten (10) on the shell

(5 mark)

5. Write a shell script to backup a file. The file name to be backedup should be provided as a command line argument. The backup file should have the same file name with an additional extension '.bak'.
    a. If the user provides no input value for the name, the script should display an error message.
    b. If there is an input file name, but it does not exist, the script should display an error message.
    c. If the input file exists, the script should create the backup file and overwrite an existing backup file with the same name if necessary.

(15 mark)