Assessment 1

Algorithms and Pseudo Code

Write algorithms and Pseudo Code for the following scenarios:

1. Write an algorithm to find the closest elevator among E1 and E2 for person P. For example, if P is in 10th floor, E1 is on 15th and E2 is on 8th. Result should be shown: P is close to E2. Inputs for system: P, E1, E2. (Algorithm 5 Marks, Psuedocode 15Marks).

2. Write an algorithm to print first 50 numbers divisible by 3. (Algorithm 5 Marks, Psuedocode 15Marks)

3. Write an algorithm to print all prime numbers between 1 and 50. (Algorithm 5 Marks, Psuedocode 15Marks)

4. What is a programming Language and what are applications of Java. (10 marks)

5. What is difference between Algorithm and Psuedocode. (10 marks)

NOTE: Length of answers, or number of steps will not be criteria for evaluation. This test is for 80 marks.

Linux (Ubuntu)

What is Operating System

What is the difference between commercial operating system and open source opertaing system. Give at least one example of each

What is the difference between Shell and Kernel and who talks to the operating system

List at least 8 Linux distributions you know

List at least 4 Linux shells you know

Write command to print the directory path you are currently working on

Write command to display date in "YYYY-MON-Day HH:MM:SS" format, example: 2017-May-05 11:26:35

Write command to list all files and directories in the reverse order of last modified

Write command to go back three levels from the existing directory

Write command to display last 20 lines of a file

Write command to find ID of root user

Consider you are in /home/scls/location1, write command to move a directory from /home/scls/location1 to /home/scls/location5

Consider you are in /home/scls/location1, write command to list all files and directories in /home/scls/location5

What is the difference between mv and cp

Write command to find find from when the Ubuntu system is up and running

Write command to find kernel version

Write command to create a file with zero bytes

What is the difference between program and process; write command to list all the running processes in the system

Change to your HOME directory and redirect its content to both output stream and a file exam1.txt

Programming Fundamentals

What is a program

What is a compiler and list at least 2 compilers you know

What level and type of language is 'C', write at least two advantages, disadvantages and applications of using 'C' language

1 GB = ? bits (Use Calculator, but I need clear steps on how you did this)

What is the program that will convert a program from high level to low level

What is the name of the program that will convert a Assembly level language to Low level

Algorithms and Reasoning

Write algorithm to find largest number from a set of 3 numbers

Write algorithm to find whether a number is palindrome or not. A palindromic number is a number that remains the same when its digits are reversed

Example: 121, 4554, 86668

7, 10, 8, 11, 9, 12, ... What number should come next?

Fill in the blank : 2,3,5,7,9, 11, --, 17, 19

Consider that you have two jugs a 4 liter and 3 liter. You have a pump which has unlimited water which you can use to fill the jugs. Neither of the jug has any measuring markings on it. How can you get exactly 2 liters of water in the 4 liter jug