Lab Experiment Guidelines –

1. Prepare three files 1.sh,2.sh and 3.sh for Q. NO. 1,2 and 3 respectively and ZIP them up (zip only) and prepare an archive with the nomenclature as AMITKUMARVERMA-1.zip (YOURNAME-LABEXPERIMENTNUMBER.zip). Assignment will be extracted by an auto script so make sure that you follow the nomenclature strictly otherwise your assignment may be discarded. Assignments are to be submitted to oslnmiit@gmail.com by Thrusday, Jan 20, 2011 11:59pm. I would rather recommend you to submit your assignments by 11pm only as no assignments will be checked if their submission time to the gmail ID is later than 11:59pm.
2. Any kind of help either taking or providing during the lab, assignment preparation and submission will be treated as a case of plagiarism and will strictly result into a '0'. Verbal discussion is only allowed with an undecided threshold.
3. Any kind of activities like chatting, browsing social networking websites and any other set of related activities during the lab hours will result into severe punishment.
4. Your instructor and TAs are available to help you out. Do not request them to debug your program. Try to complete the programs on your own to boost your self-confidence.

Lab Experiment 1 -

1. Write a shell script which imitates the integer guessing game. Integer guessing is an instance of games which generate a random number (lets say between 0-100) and keep it secret. It asks the user to guess the number. The game ends either with a correct guess or exceeding the threshold number of attempts (assume 5 attempts as threshold or any number you wish). You are also required to give hints to the user for each attempt. On first attempt you may give a hint like the secret number is a prime or has a digit 5 or it is divisible by 3 or similar. All the attempts after the first attempt will ask the user either to lower his guess or make it higher. An example run is

   *Let the secret number be 23*
   *#prog*
   *Guess a number between 0-100*
   *Let me give you a hint: The number is a prime*
   *Now can you guess number: 31*
   *Good, Guess lower: 29*
   *Good, Guess little lower: 23*
   *Great, you have guessed it!!You made it in only 3 attempts. Want to play again!* Y/N

2. Write a script which takes a path as an input and make following changes in the directory.
    a. Change all the lower case file names into uppercase file names. If a file with an equivalent uppercase name already exists then assign a version no. at the end like ONE.01 and ONE.02 etc.
    b. Change all the .txt files into .tex files.
    c. If there are subdirectories then apply the same steps to them also.

3. Write a script which prints following things on a machine.
    a. Processor Type
    b. No. of Processors
    c. CPU Frequency
    d. OS name
    e. Kernel version
    f. RAM size (Total and free memory both in MB), Disk size
    g. Total number of processes running, CPU Usage
    h. No. of different users available on the machine and their names
    i. No. of times this system has been booted/rebooted in last one month

4. Run below commands and learn their behavior (No Submission needed for this question) touch, last, lastb, reboot, rev, at, cron, apropos, bc, bg, fg, chown, chroot, convert, diff, cmp, df, du, grep, egrep, pgrep, finger and find