DevOps
Quiz # 2

REG#: _____ NAME: _____

COURSE CODE: CS423 INSTRUCTOR: MUHAMMAD SAJID ALI

TOTAL MARKS: 68

Note: All scripts you create should be stored in the current user's directory under ' ~/home/Fall2023/CS423/quiz2 '. It's essential to follow this directory structure. All questions are mapped to CLO2, PLO2

Important: In addition to the functionality of your scripts, you *will also be evaluated* based on the **quality of your comments**. Please provide clear, concise comments within your scripts to explain the purpose and usage of each part. Comments are crucial for understanding your code and will be considered in the marking process."

Question 1: Write the bash script named 'systeminfo.sh' that will do the following tasks. **(6 marks)**

1. Print the *kernel name*, *kernel release*, *processor type* and installed *operating system*?
2. Print the name of your favorite editor and display where that editor and its documentation is located in the filesystem.

Question 2: User and Group Management. Create a Bash script named "usergroup.sh" that performs the following actions: **(11 marks)**

1. Create a user named "devopsuser."
2. Create a group named "devopsgroup."
3. Add the "devopsuser" to the "devopsgroup."

Question 3: SSH Configuration. Create a Bash script named "sshconfig.sh" that performs the following actions: **(25 marks)**

1. Generate an SSH key pair using the RSA algorithm with the default settings. Save the private key to the created user home directory.
2. Configure SSH to disable password authentication.
3. Set up SSH so that the user can log in without specifying their username and IP address each time.
4. SSH into the system using the newly created credentials in non-interactive mode and do the following tasks:
    A. Create a test directory inside the home directory.
    B. Create and file name "filecreatedinnoninteractivemode.txt" and write "I am doing the task2."

Question 4: File and Directory Manipulation. Create a Bash script named "filedir.sh" that performs the following actions: **(10 marks)**

1. Create a directory named "/devopsdir".
2. Inside "/devopsdir," create a file named "devopsfile.txt" and write "AoA, Hello DevOps! " to it.
3. Give the "devopsuser" read and write permissions for the "devopsfile.txt" and read, write, and execute permissions for "devopsdir." Give read permissions to other users.

Question 5: Backup Script. Create a Bash script named "backup.sh" that will compress the contents of the "devopsdir" directory into a tarball (tar.gz) every 10 minutes and save each backup in the "devopsuser" home directory, specifically inside the "backup" directory. Each backup should have a unique and descriptive name for easy identification. **(15 marks)**

Bonus Marks: If you can write a script that not only performs the backup but also sets up the cron job for you, you will receive bonus marks."

Question 6: You've created several Bash scripts as part of this quiz. Now, you need to transfer all these scripts, along with this script, to a remote server. Write a Bash script named 'transfer.sh' that accomplishes the following: **(12 marks)**

1. Creates a tarball (compressed archive) named 'Your_Reg_No.tar.gz', which contains all the Bash scripts you've created during this quiz, including this one. Do not manually give the name of each scripted file. You may have an arbitrary number of scripts.

   [Hint*: you may use patterns to match string, i.e., '*.jgp']

2. Uses the 'scp' command to copy the 'Your_Reg_No.tar.gz' tarball to the /home directory on the following server:
   a. Server IP:
   b. Username: your_reg_number
   c. Password: your_reg_number

Important: Make sure to replace 'Your_Reg_No' in the tarball's name with your actual registration number.