Assignment 2: Programming bash

1. Write a script to take backup of current directory to `$HOME/backup` directory. An example of source and destination directories is given below:

    Source directory: `/home/aap/my_dir1/dir2`
    Destination directory: `/home/aap/backup/my_dir/dir2`
    (Hint: Use `rsync` for efficiency)

2. Write a script to backup current directory but on a remote machine.

3. Find all IPs taken in the subnet of your system using a script.

4. Write a script to find files/directories with substring "sh" in their names within `/usr` directory using `find` command (such as `/usr/bin/ba`**sh** and `/usr/bin/`**sh**`red`). Write another script to do the same but without using `find` command.

5. Find the following details of your CPU using a script:
    a. bogomips
    b. number of cores
    c. model name
    d. cpu MHz

6. Write a background process that shutdowns computer if no user is logged-in for 15 min.

7. Print the entry in `/etc/passwd` file corresponding to a given user group number.
   Input:
   ```
   $ ./assgn-2.7 1000
   ```
   Output:
   ```
   iiita:x:1000:1000:IIITA:/home/iiita:/bin/bash
   ```

8. Make a list of all userid vs user name as listed in `/etc/passwd.`
   Input:
   ```
   $ ./assgn-2.8
   ```
   Output:
   ```
   halt halt
   mail mail
   operator operator
   games games
   ftp FTP User
   nobody Nobody
   abrt
   apache Apache
   ```

9. Generate n files each with numbers from 1 to n as shown below..

    Sample:

```
$ ./assgn-2.9 3
Creating file-001.txt
Creating file-002.txt
Creating file-003.txt
$ cat file-002.txt
1
2
$
```