BASH SCRIPTING

Regex

CONTENTS

Meaning of metacharacters

- `^` (caret): Matches the start of a string.
- `$` (dollar): Matches the end of a string.
- `.` (dot): Matches any single character except a newline character.
- `[]` (square brackets): Defines a character class, matching any one character within the brackets.
- `{}` (curly brackets): Specifies a specific quantity of characters to match.
- `-` (hyphen): Specifies a range of characters when used within square brackets.
- `?` (question mark): Makes the preceding character optional, matching zero or one occurrence.
- `*` (asterisk): Matches zero or more occurrences of the preceding character.
- `+` (plus): Matches one or more occurrences of the preceding character.
- `()` (parentheses): Groups expressions together.
- `|` (pipe): Indicates an OR condition between two expressions.
- `\` (backslash): Escapes a metacharacter, allowing it to be matched as a literal character.

Regex can be used with:

- AWK
- SED
- IF
- Grep
- Echo

Regex with IF

```
if [[ "$string" =~ regex_pattern ]]; then
  # code block to execute if string matches regex pattern
else
  # code block to execute if string does not match regex pattern
fi
```

```
filename="document.txt"

if [[ "$filename" =~ \.txt$ ]]; then
  echo "Filename has a .txt extension"
else
  echo "Filename does not have a .txt extension"
fi
```

```
string="Hello, world!"

if ! [[ "$string" =~ [0-9] ]]; then
  echo "String does not contain any digits"
else
  echo "String contains at least one digit"
fi
```

Questions

1. From datafile find the name age and department of all employees whose name starts with ‘s’ and ends with ‘a’.

   Example:- `awk '/^J/{ print $0 }' datafile`

2. Print all records where the record ends with n
3. Print all records that start with J and ends with n
4. from ifconfig output find all IP addresses.
5. Replace all occurrences of 'll' with a single 'l'
6. Replace a word that starts with H with the word replaced.
7. From the text TestT100String only extract the digits.
8.

Assignments

1. **Write a Bash script to find the latest file in any given folder. The folder should be presented as a command line argument. Make a copy of the file and find the most occurring word in the file.**
2. **Write a Bash script to print the name of the the person who last logged into the system. From the home folder find out (if any) files for which this person is the owner. Can you find the total login time of this user**
3. **Write a Bash script to use find command to find the path of conf.d file. From the path replace all “/” symbols and replace them with “-” and print the path.**