

## Lab 2: More Unix Commands

### ‘echo’

1. What are the differences among the following commands? Explain with screenshots. (2 pts)
  - a) echo cal
  - b) echo \$(cal)
  - c) echo \$cal
  - d) echo “\$(cal)”

### Environment variables

2. What command will show you all the environment variables? What command will display the environment variable named **PATH**? Show both with screenshots. (1 point)

### I/O

3. What are the differences among the following commands? Explain with examples and screenshot. ( 4 points, 1 point each)

cat

cat < filename

cat > filename

cat >> filename

4. Write a command that shows the lines with line numbers the string “**bird**” exists in a file named “**The Rhyme of Ancient Mariner**” in your current directory. (1 point)
5. Write a command that searches the string “**line**” in all .c and .txt files starting from your current directory and all sub directories. (1 point)

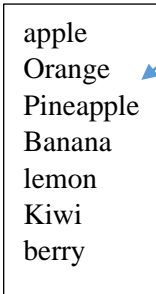
### Metacharacters in Regular Expression

6. What will the following patterns match? Explain. (4 points, 1 point each)
  - a) ^bags\$
  - b) ^...\$
  - c) l.g
  - d) ^\.

## ‘grep’, ‘find’, ‘pipe’

7. Consider the following file named “**FruitsList.txt**”. Try the following commands and explain each output with screenshot. ( 6 points, 1 point each)

- a) `grep “[A-Z]e” FruitsList.txt`
- b) `grep -i “[A-Z]e” FruitsList.txt`
- c) `grep “[^A-Z]e” FruitsList.txt`
- d) `grep -i “[^A-Z]e” FruitsList.txt`
- e) `grep “^le” FruitsList.txt`
- f) `grep “le$” FruitsList.txt`



```
apple
Orange
Pineapple
Banana
lemon
Kiwi
berry
```

**FruitsList.txt**

8. Suppose you are in your home directory. What are the differences between the following commands? Explain with screenshot. 1 point

```
find . -name "*.txt"
```

```
find ~ -name "*.txt"
```

9. Write a command that finds all text files in your home directory and subdirectory and shows the long listing. 1 point

10. What will the following commands do? Explain with screenshots. (2 points, 1 point each)

- a) `ls -l | grep ‘^.....rw’`
- b) `grep -n variable *.ch`

## Processes and Jobs

11. What is process? How will you differentiate processes from jobs? 1 point
12. What does **ps** command do? Explain with screenshot. 1 point

## Submission:

- A PDF file - Name this file as follows: your last name, first letter of your first name, Lab2.pdf (i.e., YasminSLab2.pdf). This file will contain all your answers. Each question should be copied first and then answered.
- You should turn in through the EWU Canvas system.
- Submission deadline is **Friday, October 9**.
- **No late submission will be accepted.**