

St. Francis Institute of Technology, Mumbai-400 103.
Department of Information Technology

A.Y. 2023-2024

Class: SE-ITA/B, Semester: IV

Subject: **UNIX LAB**

Experiment – 11: Mini project.

1. **Aim:** To implement mini project using shell scripting language.
2. **Objectives:**
 - To implement shell programs to solve real life problems.
3. **Outcomes:** After study of this experiment, the student will be able to
 - Develop shell scripts to solve real life problems.
4. **Prerequisite:** Unix commands, Shell scripts.
5. **Requirements:** Personal Computer, Ubuntu OS, Text Editor, LibreOffice.
6. **Pre-Experiment Exercise:**

Theory:
(Some theory about your project)
7. **Laboratory Exercise**
 - A. **Procedure**
(Steps to code and execute your project)
 - B. **Result/Program code Screenshots**
8. **Post-Experiments Exercise**
 - A. **Extended Theory:**
Nil
 - B. **Questions:**
Nil
 - C. **Conclusion:**
 1. Write what was performed in the experiment.
 2. Mention few applications of what was studied.
 3. Write the significance of the topic studied in the experiment.
 - D. **References:**
 1. Yashwant Kanetkar, UNIX Shell Programming, BPB Publications.
 2. Sumitabha Das, UNIX Concepts and Applications, 3rd Ed., Tata McGraw Hill.

EXPERIMENT 11: MINI PROJECT

6. Pre-Experiment Exercise:

Theory:

The Bash script creates a clock display in the terminal by continually updating the time every second. Here's how it works:

1. **Color Setup**: It sets up a violet variable containing an ANSI escape sequence “\033[0;35m” for changing the text color to violet.
2. **Infinite Loop**: The script enters an infinite while true loop to continually update the clock display.
3. **Clear Screen**: Before updating the time, it clears the terminal screen using the clear command.
4. **Time Display**: It then uses the date +%T command to fetch the current time in HH:MM:SS format and displays it in violet color using echo \$violet.
5. **Delay**: After displaying the time, the script sleeps for 1 second using sleep 1s before the next iteration of the loop.
6. **Repeat**: This process repeats indefinitely, creating a clock that updates every second.

Functionality: The script provides a simple, terminal-based clock that can be used for basic timekeeping or as a visual element in a script or program. It demonstrates basic Bash scripting concepts such as variable assignment, loops, command execution, and ANSI escape sequences for color formatting.

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Exp: 11
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7. Laboratory Exercise:

A. Procedure:

Steps in creating a Shell Script:

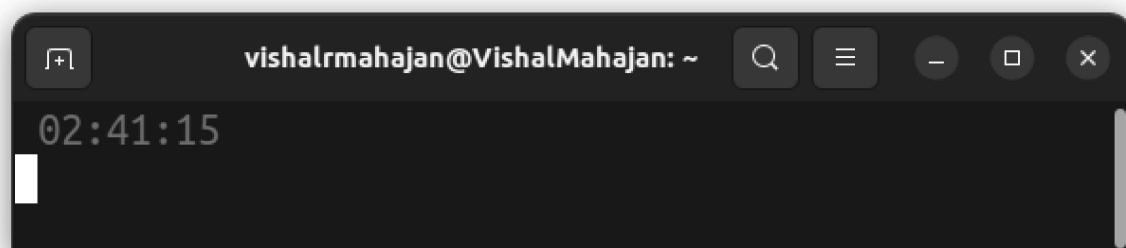
1. Create a file using a gedit editor (or any Other editor).
2. Name the script file with extension Sh
3. Start the script with `#!/bin/sh`
4. Write clock code given below.
5. Save the script file as filename.sh
6. Give the shell permission to execute it.
7. For executing the script type `bash filename.sh`

B. Results/Program Code Screenshots



```
1 #!/bin/bash
2
3 violet=$'\033[0;35m'
4
5 while true
6 do
7     clear
8     echo $violet $(date +%T)
9     sleep 1s
10 done
```

The screenshot shows a text editor window titled "VishExp11.sh". The code is a shell script that uses ANSI escape codes to print the time in violet color every second in an infinite loop. The status bar at the bottom indicates the shell is "sh", tab width is 8, and the cursor is at line 10, column 5.



```
vishalrmahajan@VishalMahajan: ~
02:41:15
```

The screenshot shows a terminal window with the prompt "vishalrmahajan@VishalMahajan: ~". The output of the script is the time "02:41:15" displayed in violet color.