

Practical No. 2: Execute general purpose commands.

I. Practical Significance:

General purpose commands are inbuilt programs that can be invoked in multiple ways. These commands work interactively from a terminal. A terminal that provides a command line interface using a shell program.

II. Relevant Program Outcomes (POs)

- **Discipline knowledge:** Apply Computer Programming knowledge to solve the computer group related problems.
- **Experiments and practice:** Plan to perform experiments and practices to use the results to solve the computer group related problems.
- **Engineering tools:** Apply relevant Computer programming / technologies and tools with an understanding of the limitations.
- **Individual and Team work:** Function effectively as a leader and team member in diverse/multidisciplinary teams.
- **Communication:** Communicate effectively in oral and written form.

III. Competency and Practical skills

Manage operations of Operating System.

The practical is expected to develop the following skills:

1. Able to apply general purpose commands.

IV. Relevant Course Outcome(s)

Use operating system tools to perform various functions.

V. Practical Outcome (PrOs)

Execute general purpose commands date, time, cal, clear, banner, tty, script, man.

VI. Relevant Affective domain related Outcome(s)

1. Follow precautionary measures.
2. Follow naming conventions.
3. Follow ethical practices.

VII. Minimum Theoretical Background

| Sr. No. | Commands | Meaning |
|---------|--------------|---|
| 1 | \$date | It displays system date and time |
| 2 | \$cal | Displays calendar for current month. |
| 3 | \$clear | Clears the screen |
| 4 | \$banner OSY | Displays an argument string as a poster with maximum of ten characters per line |
| 5 | \$tty | Name of terminal |
| 6 | \$script | Record login session |
| 7 | \$man | It gives manual help for any command. |

Specifying the date format

(+ is used to concatenate date command with descriptor)

| Descriptor | Example | Meaning | Example |
|------------|-------------------------------------|--------------------|----------|
| %y | \$date "+%y" | Year(2 Digits) | 19 |
| %b | \$date "+%b" | Month abbreviation | Jan |
| %m | \$date "+%m" | Month digit | 01 |
| %d | \$date "+%d/%m/%y" | Day of month | 01 to 31 |
| %j | \$date "+Today is %jth day of year" | Day of year | 1 to 366 |

VIII. Resources required (Additional)

| Sr. No. | Name of Resource | Broad Specification | Quantity | Remarks (If any) |
|---------|------------------|---|-------------------|---------------------|
| 1 | Computer System | Processor (i3-i5), RAM- 2GB and above (As per need of OS) | As per batch Size | For all Experiments |
| 2. | Operating System | Unix/Linux/Ubuntu/any other open sources operating system | | . |

IX. Resources used (Additional)

| Sr. No. | Name of Resource | Broad Specification | Quantity | Remarks (If any) |
|---------|------------------|---------------------|----------|------------------|
| 1 | Computer System | lenovo, ryzen5 | 1 | - |
| 2. | Operating System | Windows | 1 | - |

X. Program Code: Teacher must assign a separate command statements to students.

1. Write down different options of cal command. (Use \$man cal)
2. Write options of date command. (Use \$man date)

1) → ?

- a] -1 b] -3 c] -n d] -s,5] -m

2) → ?

- | | |
|-------|-------|
| a] -d | e] -s |
| b] -f | f] -u |
| c] -R | |
| d] -r | |

XI. Result (Output of Commands):

We are now able to execute general purpose commands like date, cal, script etc.

XII. Practical Related Questions

Note: Below given are few sample questions for reference. Teacher must design more such questions to ensure the achievement of identified CO.

1. How you record all the following activities performed by the user.
2. Give a command to display calendar for month of January.
3. Give single statement command to display the calendar of previous, current and next month.
4. Give the command to display full week day (eg.Sunday) using date command.

(Space for Answer)

1) _____ → ?

By using Script command, we have recorded all activities.

2) _____ → ?

cal 01 2021

3) _____ → ?

cal -3

4) _____ → ?

date "+%A"

XIII. Exercise:

1. What is output of following commands?
 - a. \$cal 04 2019
 - b. \$date "+Today's information: %D and %B"; cal
 - c. \$date "+My clock is showing %H hours, %M minutes and %S seconds"
 - d. \$cal -3
 - e. \$cal -5
 - f. \$cal -2000

(Attach page for output)
2. Give the syntax of commands for displaying the output. (use date)
 - i. This is Month of the year (Abbreviation for month and 4-digit year)
 - ii. This is the'th day of this year.

(Space for answer)

1) → ?

a]

April 2019

b]

| SU | MO | TU | WE | TH | FR | SA |
|----|----|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | | | | |

b) → ?

Today's information: 10/08/21 and october

October 2021

| SU | MO | TU | WE | TH | FR | SA |
|----|----|----|----|----|----|----|
| | | | | | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | | | | | | |

9] →?

My clock is showing 18 hours, 27 minutes and 10 seconds

10] →?

September 2021

| Su | Mo | Tu | We | Th | Fr | Sa |
|----|----|----|----|----|----|----|
| | | | 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | | |

October 2021

| Su | Mo | Tu | We | Th | Fr | Sa |
|----|----|----|----|----|----|----|
| | | | | | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | | | | | | |

November 2021

| Su | Mo | Tu | We | Th | Fr | Sa |
|----|----|----|----|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | | | | |

11] →?

i] This is the 3rd Month of year 2021

ii] This is the 31st day of year

```
LENovo@LAPTOP-CI430ATO ~
$ script
Script started, file is typescript

LENovo@LAPTOP-CI430ATO ~
$ cal 01 2021
      January 2021
Su Mo Tu We Th Fr Sa
            1  2
3  4  5  6  7  8  9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31

LENovo@LAPTOP-CI430ATO ~
$ cal -3
      September 2021       October 2021       November 2021
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
            1  2  3  4           1  2           1  2  3  4  5  6
5  6  7  8  9 10 11   3  4  5  6  7  8  9   7  8  9 10 11 12 13
12 13 14 15 16 17 18   10 11 12 13 14 15 16  14 15 16 17 18 19 20
19 20 21 22 23 24 25   17 18 19 20 21 22 23  21 22 23 24 25 26 27
26 27 28 29 30           24 25 26 27 28 29 30  28 29 30
31

LENovo@LAPTOP-CI430ATO ~
$ date "+%A"
Friday
LENovo@LAPTOP-CI430ATO ~
$ |
```



```
LENOVO@LAPTOP-CI430ATO ~
$ cal 04 2019
        April 2019
Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6
 7  8  9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30

LENOVO@LAPTOP-CI430ATO ~
$ date "+Today's information %D and %B";cal
Today's information 10/08/21 and October
          October 2021
Su Mo Tu We Th Fr Sa
 1  2
 3  4  5  6  7  8  9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31

LENOVO@LAPTOP-CI430ATO ~
$ date "+My clock is showing %H hours,%M minutes and %S seconds"
My Clock is Showing 19 hours,04 minutes and 45 seconds

LENOVO@LAPTOP-CI430ATO ~
$ date "+This is the %B Month of the year %Y"
This is the October Month of the year 2021

LENOVO@LAPTOP-CI430ATO ~
$ date "+This is the %j'th day of this year"
This is the 281'th day of this year

LENOVO@LAPTOP-CI430ATO ~
$ |
```

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