RIPHAH INTERNATIONAL UNIVERSITY, ISLAMABAD

Lab # 5

Bachelors of Computer Science – 6ᵗʰ Semester

Subject: Operating System

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Date of Submission: 14- Sep -2024

Task:1

You are working on a project that requires generating and formatting timestamps for log files. You need to create a report that includes the following information for each log entry:

1. The time of the log entry in the 12-hour format with AM/PM.

```
[root@localhost ~]# date +%r
08:23:16 PM
```

2. The date of the log entry in the "Month Day Year" format.

```
[root@localhost ~]# date +"%B %d %Y"
September 14 2024
```

3. The full weekday name for the log entry.

```
[root@localhost ~]# date +%A
Saturday
```

4. The numerical representation of the month.

```
[root@localhost ~]# date +%m
09
```

5. The last two digits of the year.

```
[root@localhost ~]# date +%y
24
```

Task: 2
What command would you use to display the current time in a 24-hour format with only hours and minutes?

```
[root@localhost ~]# date +%R
20:28
```

Task: 3
What is the command to get the current year in four-digit format?

```
[root@localhost ~]# date +%Y
2024
```

Task: 4
How can you get the current date in a combined format of numerical day, month, and year and Time?

```
[root@localhost ~]# date
Sat Sep 14 08:28:53 PM UTC 2024
```

Task: 5

You need to determine the date of the previous day from today. Write the command that you would use to get yesterday's date.

```
[root@localhost ~]# date --date="yesterday"
Fri Sep 13 08:31:15 PM UTC 2024
```

Task: 6

You are preparing a schedule and need to find out the date for the following day. What command should you use to display tomorrow's date?

```
[root@localhost ~]# date --date="tomorrow"
Sun Sep 15 08:32:33 PM UTC 2024
```

Task: 7

Suppose you are working on a report that needs to include the date exactly 10 days before today. Which command will help you find this date?

```
[root@localhost ~]# date --date="10 days ago"
Wed Sep  4 08:33:05 PM UTC 2024
```

Task: 8

You need to quickly view the calendar for the current month to check upcoming events. What is the command to display the calendar for the current month?

```
[root@localhost ~]# cal
    September 2024
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
```

Task: 9

You are organizing a historical review and need to view the calendar for May 2024. Write the command that will show the calendar for this specific month and year.

```
[root@localhost ~]# cal may 2024
      May 2024
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
```

Task: 10

You are creating a simple shell script to automate a routine task for your team. The script needs to display a series of important messages to the user, and then it should clear the terminal screen to prepare for the next set of instructions.

1. First, you want to print a welcoming message that includes the current date and time. Use the `echo` command for this purpose.

```
[root@localhost ~]# echo "Welcome! The current date and time is: $(date)"
Welcome! The current date and time is: Sat Sep 14 08:37:03 PM UTC 2024
```

2. After displaying the welcoming message, the screen should be cleared to keep the terminal uncluttered before moving on to the next part of the script.

```
[root@localhost ~]# clear
```

```
[root@localhost ~]#
```

Task: 11

(A) You have a file named `data.txt` containing a list of strings, one per line. How would you sort these strings in reverse alphabetical order? (01 Marks)

```
[root@localhost ~]# cat > data.txt
Zainab
ushna
Javeria
Ayesha
Mahnoor
Amna
Fatima
[root@localhost ~]# sort -r data.txt
Zainab
ushna
Mahnoor
Javeria
Fatima
Ayesha
Amna
```

(B) You have a file named `records.txt` where each line contains several fields separated by spaces. How would you sort this file based on the values in the second column? (01 Marks)

```
[root@localhost ~]# cat > record.txt
John 25 Manager
Alice 30 Developer
Bob 22 Analyst
Eve 28 Designer
Charlie 35 Director
[root@localhost ~]# sort -k2 record.txt
Bob 22 Analyst
John 25 Manager
Eve 28 Designer
Alice 30 Developer
Charlie 35 Director
[root@localhost ~]#
```