

RIPHAH INTERNATIONAL **UNIVERSITY, ISLAMABAD**



Lab#5

Bachelors of Computer Science – 5th Semester

Subject: Operating System

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Q1: 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  
07:34:20 PM
```

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

```
[root@localhost ~]# date +%B-%d-%Y  
September-17-2024  
[root@localhost ~]# date +%m-%d-%Y  
09-17-2024
```

3. The full weekday name for the log entry.

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

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
```

Q2: What command would you use to display the current time in a 24-hour format with only hours and minutes? (0.5 Marks)

```
[root@localhost ~]# date +%H-%M  
19-43
```

Q3: What is the command to get the current year in four-digit format? (0.5 Marks)

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

Q4: How can you get the current date in a combined format of numerical day, month, and year and Time? (0.5 Marks)

```
[root@localhost ~]# date "+%d-%m-%Y +%H-%M-%S"  
17-09-2024 +19-47-31
```

Q5: You need to determine the date of the previous day from today. Write the command that you would use to get yesterday's date. (0.5 Marks)

```
[root@localhost ~]# date --date="Yesterday"  
Mon Sep 16 07:48:51 PM UTC 2024  
[root@localhost ~]# date --date="Yesterday" +%d-%m-%Y  
16-09-2024
```

Q6: 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? (0.5 Marks)

```
[root@localhost ~]# date --date="Tomorrow" +%d-%m-%Y  
18-09-2024
```

Q7: 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? (0.5 Marks)

```
[root@localhost ~]# date --date="10 day ago" +%d-%m-%Y  
07-09-2024
```

Q8: 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? (0.5 Marks)

```
[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
```

Q9: 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. (0.5 Marks)

```
[root@localhost ~]# cal 05 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
```

Q10: 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. (01 Mark)

```
[root@localhost ~]# echo "Welcome! The current date and time is: $(date)"
Welcome! The current date and time is: Tue Sep 17 07:56:48 PM UTC 2024
[root@localhost ~]# echo "Welcome! The current date and time is: $(date "+%d-%m-%Y %H-%M-%S")"
Welcome! The current date and time is: 17-09-2024 19-59-05
```

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. (01 Mark)

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

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

Q11: 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 ~]# touch data.txt
[root@localhost ~]# cat > data.txt
Banana
Apple
Cherry
Watermelon
[root@localhost ~]# sort -r data.txt
Watermelon
Cherry
Banana
Apple
[root@localhost ~]#
```

(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 ~]# touch records.txt
[root@localhost ~]# cat > records.txt
John 22
Emily 34
Bob 55
Alice 46
[root@localhost ~]# sort -k 2 -n records.txt
John 22
Emily 34
Alice 46
Bob 55
[root@localhost ~]#
```