**Q.1 Write Command for following**  **(10)**

1. Display message “ Date: <dd/mon/yyyy> and Time : <time>” ( 3)
2. Display all the lines which are starting with vowels. (3)
3. Display all teh files which are not created in last todays (4)

**Q.2** The interest rate used on funds deposited in a bank is determined by the **(12)** amount of time the money is left on deposit. Write a shell script that accept time and funds are left on deposit and display the interest rate and calculate the interest amount corresponding to the time entered and net amount after the completion of given period.

1. Greater than or equal to 5 years 10%
2. Less than 5 but greater than or equal to 4 years 9%
3. Less than 4 but greater than or equal to 3 years 8%
4. Less than 3 but greater than or equal to 2 years 7%
5. Less than 2 but greater than or equal to 1 years 6%
6. Less than 1 year 5%

e.g. fdcal 3 5000

**Q.3**

Reader-Writer problem: **(08)**

More than one Reader can read from a file, but when one writer will write, no other writer and reader can operate on the file. When one write will write, whole file is locked by writer. Implement these features using mutual exclusion

**Q.1 Write Command for following (10)**

Create a file named customer.dat which contains customer name, address and city.

* + 1. Sort the file in ascending order of customer name and then by city and redirect the output to name.out file (4).
    2. Display all lines with line number which contains „Z01‟ word in mcastudent.lst file. [format: Zone:Student:College] (3)
    3. Find all the lines in a file which begins with g or any digit from 0 to 9. (3)

**Q.2** Write a script which reads a text file and output the following **(12)** a) Count of character, words and lines.

1. File in reverse.
2. Frequency of particular word in the file.
3. Lower case letter in place of upper case letter.

**Q.3** Inpmelent program in GNU ‘C’ with Named Pipes **(08)**

There is an array of elements of int. calculate the Frequency and relative frequency of values within given range. Implement mutual exclusion in this application.

|  |  |
| --- | --- |
| **Q.1** Write Command for following   1. Display message “ Hello <user> , You are working on <system name>”   **(3)**   1. Redirect the last 15 lines of /etc/passwd file into “alluser.out” file and merge user.out and alluser.out file with the delimiter “|”. **(3)** 2. Display all the file which has been modified in last 2 days. **(4)** | **(10)** |
| **Q.2** Script should run using command line and without it. Write a shell script to check whether entered number a Armstrong number or not. | **(12)** |
| **Q.3** Implement producer, consumer problem using unbounded buffer in GNU ‘C’ with Named Pipes .When producer will put the element in the array, consumer will wait until producer will release the array and same operation is applicable for consumer. Implement mutual exclusion. When array isfull, producer will | **(08)** |

Display appropriate .When buffer is empty, consumerwill Display appropriate.

# Set 4

## Q.1 Write Command for following (10)

Create a file named customer.dat which contains customer name, address and city. **a)** Sort the file in ascending order of customer name and then by city and redirect the output to output.out file. **(4)**

1. Add line numbers to all non empty lines in customer file. **(3)**
2. Display number of lines having city “Ahmedabad”. **(3)**

* 1. Write a shell script to create a command line calculator. e.g. input : mycal 5 + 5 **(12)**

Result : 10, input : mycal 5 \* 5 Result : 25

* 1. Implement program in GNU ‘C’ with Named Pipes **(08)**

There is an array of elements of int. calculate the Frequency and relative frequency of values within given range. Implement mutual exclusion in this application.

# Set 5

## Q.1 Write Command for following (10)

1. Count all the subdirectories of Specified directories. **(3)**
2. Display all the lines which ends with the word “unix” in any specific file and sorts those lines in ascending order by ignoring leading blanks. **(4)**
3. Show in a file how many items (subdirectories and files are there in current directory**.(3)**

* 1. Write shell script which will work using command line argument and if command line **(12)**  argument is not provided, it should ask user to provide necessary input(s). Take an eight digit number and display even digits found in number. For example: 95248360 and output will be 2,4,8,6,0
  2. Implement Reader-Writer problem in GNU ‘C’ with Named Pipes: **(08)**

More than one Reader can read from a file, but, when one writer will write, no other writer and readers can operate on the file.