Problem Statement 2 :- Prepare and Verify an employee database file (EMP) that contains employee records under the following column.

EMP ID, EMP First_Name, EMP Last_Name, Location, Designation, Net Salary, Specialization, Project, Joining Month, Joining Year.

Design, Execute and Analyze AWK Script for the following problem statements.

2.1 Create and Execute AWK script to display EMP ID, EMP First_Name, EMP Last_name, Location, and Designation of employees having designations as 'Manager.

2.2 Create and Execute AWK script to display EMP ID, EMP First_Name, EMP Last_Name, Location and Designation of employees who are specialized in Java Programming and are working at Delhi and Pune locations.

2.3 Create and Execute AWK script to display EMP ID, EMP First_Name, EMP Last_Name, Location, Designation, Joining Month and Joining Year of all those employees who joined after January 2000 but before December 2005.

2.4 Create and Execute AWK script to display all fields of all those employees who joined the Organization on the net salary in between 45000 to 65000, during the period January 2000 to December 2005.

2.5 Create and Execute AWK script to display all fields of all those employees whose last name is "Kumar".

Objective :- To design and analyze an employee database using AWK scripting in order to perform efficient data extraction and filtering operations. By preparing the employee database file (EMP) with attributes such as EMP ID, Name, Location, Designation, Salary, Specialization, Project, and Joining details, and then executing AWK scripts, we aim to:

1. Retrieve employee details based on specific conditions such as designation (e.g., Manager), specialization (e.g., Java Programming), and location (Delhi, Pune).

2. Extract employees' joining details within a given time period (e.g., between Jan 2000 and Dec 2005).
3. Identify employees within a specific salary range along with joining period constraints.
4. Display complete records of employees based on last name filtering (e.g., “Kumar”).

2.1 Create and Execute AWK script to display EMP ID, EMP First_Name, EMP Last_name, Location, and Designation of employees having designations as 'Manager.

Objective :- To develop and run an AWK script that extracts and displays the employee ID (EMP_ID), First name (EMP_First_name), last name(Emp_last_name),location, and designation of employees whose designation is ‘Manager’ from a given dataset . This script will enhance data analysis and facilitate quick access to relevant employee information for management purposes.

Output :

```
ashis@Ashish-Vivobook MINGW64 ~
$ vim emp.txt

ashis@Ashish-Vivobook MINGW64 ~
$ cat emp.txt
Emp_Id  First_Name      Last_Name       Location        Designation     Salary  Specialization Project Joining_Month    Joining_Year
01      Rajesh          Kumar           Delhi           Manager         75000   C++             Alpha   Feb             2001
02      Sunita          Verma           Bangalore       Engineer        65000   Java            Beta    Dec             2004
03      Amit            Singh           Pune            Developer       60000   Python          Gamma   Jan             2002
04      Priya           Sharma          Delhi           Manager         80000   Java            Delta   Apr             2005
05      Vikram          Kumar           Mumbai          Analyst         40000   SQL             Epsilon Sep             1998
```

AWK Script:

```
BEGIN{
        printf "\nFiltering Out Managers\n"
}
{
if ($5 == "Manager")
        print $1, $2, $3, $4, $5
}
END{
        printf "\nQuery Completed\n"
}
```

Output :

```
ashis@Ashish-Vivobook MINGW64 ~
$ vim emp.awk

ashis@Ashish-Vivobook MINGW64 ~
$ awk -f emp.awk emp.txt

Filtering Out Managers
01 Rajesh Kumar Delhi Manager
04 Priya Sharma Delhi Manager

Query Completed

ashis@Ashish-Vivobook MINGW64 ~
$
```

2.2 Create and Execute AWK script to display EMP ID, EMP First_Name, EMP Last_Name, Location and Designation of employees who are specialized in Java Programming and are working at Delhi and Pune locations.

Objective :- To develop and run an AWK script that extracts and displays the employee ID (EMP_ID), First name (EMP_First_name), last name(Emp_last_name),location, and designation of employees who are specialized in Java Programming and Working in delhi and

pune locations from a given dataset . This script will enhance data analysis and facilitate quick access to relevant employee information for management purposes.

AWK Script:

```
BEGIN{
        printf "\nFiltering Out Employees with Specialization in Java Programming\n"
}
{
if (($4 == "Delhi" || $4 == "Pune") && $7 == "Java")
        print $1, $2, $3, $4, $5
}
END{
        printf "\nQuery Completed\n"
}
```

Output :

```
ashis@Ashish-Vivobook MINGW64 ~
$ vim emp.awk

ashis@Ashish-Vivobook MINGW64 ~
$ awk -f emp.awk emp.txt

Filtering Out Managers
04 Priya Sharma Delhi Manager

Query Completed

ashis@Ashish-Vivobook MINGW64 ~
$
```

2.3 Create and Execute AWK script to display EMP ID, EMP First_Name, EMP Last_Name, Location, Designation, Joining Month and Joining Year of all those employees who joined after January 2000 but before December 2005.

Objective :- To develop and run an AWK script that extracts and displays the employee ID (EMP_ID), First name (EMP_First_name), last name(Emp_last_name),location, designation,Joining month and joining year of employees who joined in a given timeframe from a given dataset . This script will enhance data analysis and facilitate quick access to relevant employee information for management purposes.

AWK Script:

```
BEGIN{
        printf "\nFiltering Out Employees who joined after January 2000 but before December 2005\n"
}

function monthToNum(m)
{
        months["Jan"]= 1; months["Feb"] = 2; months["Mar"] = 3;

        months["Apr"]= 4; months["May"] = 5; months["Jun"] = 6;

        months["Jul"]= 7; months["Aug"] = 8; months["Sep"] = 9;

        months["Oct"]= 10; months["Nov"] = 11; months["Dec"] = 12;
        return months[m];


}
{
        month = monthToNum($9)
        if($10 > 2000 && $10 < 2005){
                print $1, $2, $3, $4, $5, $9, $10
        }
        else if($10 == 2000 && month > 1)
        {
                print $1, $2, $3, $4, $5, $9, $10
        }
        else if ($10 == 2005 && month < 12)
        {
                print $1, $2, $3, $4, $5, $9, $10
        }

}

END{
        printf "\nQuery Completed\n"
}
```

Output :

```
ashis@Ashish-Vivobook MINGW64 ~
$ vim emp.awk

ashis@Ashish-Vivobook MINGW64 ~
$ awk -f emp.awk emp.txt

Filtering Out Employees who joined after January 2000 but before December 2005
01 Rajesh Kumar Delhi Manager Feb 2001
02 Sunita Verma Bangalore Engineer Dec 2004
03 Amit Singh Pune Developer Jan 2002
04 Priya Sharma Delhi Manager Apr 2005

Query Completed

ashis@Ashish-Vivobook MINGW64 ~
$
```

2.4 Create and Execute AWK script to display all fields of all those employees who joined the Organization on the net salary in between 45000 to 65000, during the period January 2000 to December 2005.

Objective :- To develop and run an AWK script that extracts and displays the the data of those employees who joined in a given timeframe in a given salary range from a given dataset . This script will enhance data analysis and facilitate quick access to relevant employee information for management purposes.

AWK Script:

```
BEGIN{
        printf "\nFiltering Out Employees who joined on the net salary between 45000 and 65000 during the period January 2000 to December 2005\n"
}

function monthToNum(m)
{
        months["Jan"]= 1; months["Feb"] = 2; months["Mar"] = 3;

        months["Apr"]= 4; months["May"] = 5; months["Jun"] = 6;

        months["Jul"]= 7; months["Aug"] = 8; months["Sep"] = 9;

        months["Oct"]= 10; months["Nov"] = 11; months["Dec"] = 12;
        return months[m];


}
{
        month = monthToNum($9)
        if($6 >= 45000 && $6 <= 65000){
                if($10 > 2000 && $10 < 2005)
                {

                        print $1, $2, $3, $4, $5, $6, $7, $9, $10

                }
        }
        else if($10 == 2000 && month > 1)
        {
                print $1, $2, $3, $4, $5, $6, $7, $8, $9, $10
        }
        else if ($10 == 2005 && month < 12)
        {
                print $1, $2, $3, $4, $5, $6, $7, $8, $9, $10
        }

}

END{
        printf "\nQuery Completed\n"
}
```

Output :

```
ashis@Ashish-Vivobook MINGW64 ~
$ vim emp.awk

ashis@Ashish-Vivobook MINGW64 ~
$ awk -f emp.awk emp.txt

Filtering Out Employees who joined on the net salary between 45000 and 65000 during the period January 2000 to December 2005
02 Sunita Verma Bangalore Engineer 65000 Java Dec 2004
03 Amit Singh Pune Developer 60000 Python Jan 2002
04 Priya Sharma Delhi Manager 80000 Java Delta Apr 2005

Query Completed

ashis@Ashish-Vivobook MINGW64 ~
$
```

2.5 Create and Execute AWK script to display all fields of all those employees whose last name is "Kumar".

Objective :- To develop and run an AWK script that extracts and displays the the data of those employees who who have a specific Surname from a given dataset . This script will enhance data analysis and facilitate quick access to relevant employee information for management purposes.

AWK Script:

```
BEGIN{
        printf "\nFiltering Out Employees whose last name is Kumar\n"

}

{

        if($3 == "Kumar")
        {
                print $0

        }
}

END{
        printf "\nQuery Completed\n"
}
```

Output :

```
ashis@Ashish-Vivobook MINGW64 ~
$ vim emp.awk

ashis@Ashish-Vivobook MINGW64 ~
$ awk -f emp.awk emp.txt

Filtering Out Employees whose last name is Kumar
01      Rajesh          Kumar           Delhi           Manager         75000   C++             Alpha   Feb             2001
05      Vikram          Kumar           Mumbai          Analyst         40000   SQL             Epsilon Sep             1998

Query Completed

ashis@Ashish-Vivobook MINGW64 ~
$
```