

Assignment 6- Grep,Awk,sed

Theory:-

1. **Grep** is a command-line utility used for searching text patterns within files.
2. **Awk** is a text-processing tool that works on structured data.
3. **Sed** is a command-line tool for performing text transformations on a stream or file.

GREP, AWK and SED Commands:-

Input:-

All the data has been inserted using the Nano command “ **nano bhavik.txt** ” and can be replaced.

Commands:-

Displaying the data using cat command:-

```
lab1003@lab1003-HP-280-G2-MT:~$ grep -E "[1-9][0-9]{4,}" bank_accounts.txt
CUST12345,123456789012,Shah Ali Khan,Saving,12000.5,3.5,ABCDE1234F,9876 5432 1098
CUST12346,987654321098,John Michael Smith,Recurring,5000.0,4.5,XYZCD5678K,4567 8901 2345
CUST12347,234567890123,Sarah Marie Williams,Fixed,25000.0,6.0,LMNOP1234Q,5678 9101 2345
CUST12348,345678901234,Alice Jane Johnson,Saving,8000.75,3.5,GHIJK1234M,6789 0123 4567
CUST12349,456789012345,Rajesh Kumar Sharma,Recurring,10000.5,4.5,PQRST9876X,7890 1234 5678
CUST12350,567890123456,Maria Luisa Garcia,Fixed,30000.0,6.0,WXYAB9876R,8901 2345 6789
CUST12351,678901234567,Omar Hassan Ali,Saving,6000.0,3.5,LMNOP4321R,9012 3456 7890
CUST12352,789012345678,David Lee Carter,Recurring,12000.3,4.5,ABCD5678M,0123 4567 8901
CUST12353,890123456789,Sophie Claire Taylor,Fixed,15000.8,6.0,EFGHI1234J,1234 5678 9012
CUST12354,901234567890,Ethan Thomas Brown,Saving,11000.0,3.5,JKLMN4321F,2345 6789 0123

lab1003@lab1003-HP-280-G2-MT:~$ touch bank_accounts.txt
lab1003@lab1003-HP-280-G2-MT:~$ nano bank_accounts.txt
```

```
lab1003@lab1003-HP-280-G2-MT:~$ cat bank_accounts.txt
CUST12345,123456789012,Shah Ali Khan,Saving,12000.5,3.5,ABCDE1234F,9876 5432 1098
CUST12346,987654321098,John Michael Smith,Recurring,5000.0,4.5,XYZCD5678K,4567 8901 2345
CUST12347,234567890123,Sarah Marie Williams,Fixed,25000.0,6.0,LMNOP1234Q,5678 9101 2345
CUST12348,345678901234,Alice Jane Johnson,Saving,8000.75,3.5,GHIJK1234M,6789 0123 4567
CUST12349,456789012345,Rajesh Kumar Sharma,Recurring,10000.5,4.5,PQRST9876X,7890 1234 5678
CUST12350,567890123456,Maria Luisa Garcia,Fixed,30000.0,6.0,WXYZAB9876R,8901 2345 6789
CUST12351,678901234567,Omar Hassan Ali,Saving,6000.0,3.5,LMNOP4321R,9012 3456 7890
CUST12352,789012345678,David Lee Carter,Recurring,12000.3,4.5,ABCD5678M,0123 4567 8901
CUST12353,890123456789,Sophie Claire Taylor,Fixed,15000.8,6.0,EFGHI1234J,1234 5678 9012
CUST12354,901234567890,Ethan Thomas Brown,Saving,11000.0,3.5,JKLMN4321F,2345 6789 0123
```

GREP:-

```
lab1003@lab1003-HP-280-G2-MT:~$ grep -v "Fixed" bank_accounts.txt
CUST12345,123456789012,Shah Ali Khan,Saving,12000.5,3.5,ABCDE1234F,9876 5432 1098
CUST12346,987654321098,John Michael Smith,Recurring,5000.0,4.5,XYZCD5678K,4567 8901 2345
CUST12348,345678901234,Alice Jane Johnson,Saving,8000.75,3.5,GHIJK1234M,6789 0123 4567
CUST12349,456789012345,Rajesh Kumar Sharma,Recurring,10000.5,4.5,PQRST9876X,7890 1234 5678
CUST12351,678901234567,Omar Hassan Ali,Saving,6000.0,3.5,LMNOP4321R,9012 3456 7890
CUST12352,789012345678,David Lee Carter,Recurring,12000.3,4.5,ABCD5678M,0123 4567 8901
CUST12354,901234567890,Ethan Thomas Brown,Saving,11000.0,3.5,JKLMN4321F,2345 6789 0123
lab1003@lab1003-HP-280-G2-MT:~$ echo "A12355, 123123123123, Arjun Dev Singh,Saving,13500.5,3.5,QWERT1234Z,3456 7809 1234"
A12355, 123123123123, Arjun Dev Singh,Saving,13500.5,3.5,QWERT1234Z,3456 7809 1234
lab1003@lab1003-HP-280-G2-MT:~$ echo "A12433, 321321321321, Ayesha Noor Pandey,Saving,28000.0,6.0,ZXCVB5678Y,4567 8901 2345"
A12433, 321321321321, Ayesha Noor Pandey,Saving,28000.0,6.0,ZXCVB5678Y,4567 8901 2345
lab1003@lab1003-HP-280-G2-MT:~$ grep "Shah" bank_accounts.txt
CUST12345,123456789012,Shah Ali Khan,Saving,12000.5,3.5,ABCDE1234F,9876 5432 1098
```

AWK :-

```
lab1003@lab1003-HP-280-G4-MT-Business-PC:~$ nano bhavik-48.txt
lab1003@lab1003-HP-280-G4-MT-Business-PC:~$ awk '{ $1=$1; print $1 " " $2 }' bhavik.txt
Drake Shah
Mike Shah
Raj Patel
Priya Sharma
Mohan Kumar
Emily Clark
Ahmed Khan
Prithvi Jain
Li Wei
Amara Shah
Arya Stark
Jon Snow
Sansa Stark
```

```
lab1003@lab1003-HP-280-G4-MT-Business-PC:~$ nano bhavik.txt
lab1003@lab1003-HP-280-G4-MT-Business-PC:~$ awk '$3 == "Savings" {print $0}' bhavik.txt
Drake Shah  Savings  123456789012  ABCDE1234F  4.5%
Priya Sharma Savings  678901234567  QRSTU3456W  4.2%
Emily Clark  Savings  345678902134  XYZAB5678N  4.4%
Li Wei      Savings  901234567890  NOPQR3456C  4.1%
Arya Stark  Savings  123123123123  ABCDE5678M  4.6%
lab1003@lab1003-HP-280-G4-MT-Business-PC:~$ awk '$3 != "Savings" {print $0}' bhavik.txt
Mike Shah   Fixed   987654321098  FGHIJ5678K  3.8%
Raj Patel   Fixed   456789123456  LMNOP9120Q  6.0%
Mohan Kumar Fixed   234567890123  VMXYZ7890L  5.8%
Ahmed Khan  Current  789012345678  KLMNO1234X  5.5%
Prithvi Jain Fixed   109283456789  OPQRS9876Y  6.3%
Amara Shah  Current  998812345678  BCDEFG9012  5.0%
Jon Snow    Fixed   456789012345  LMNOP3456Q  6.1%
Sansa Stark Fixed   321456789012  WXYZA7890R  6.7%
```

Conclusion:-

Thus, each of these commands has its unique role in text processing and is frequently used in Linux/Unix environments for efficient data manipulation.