LINUX:DAY1

whoami   # my login

hostname   # name of the computer

 echo "hello world"   #print characters in the screen

echo $home   #print environment variable

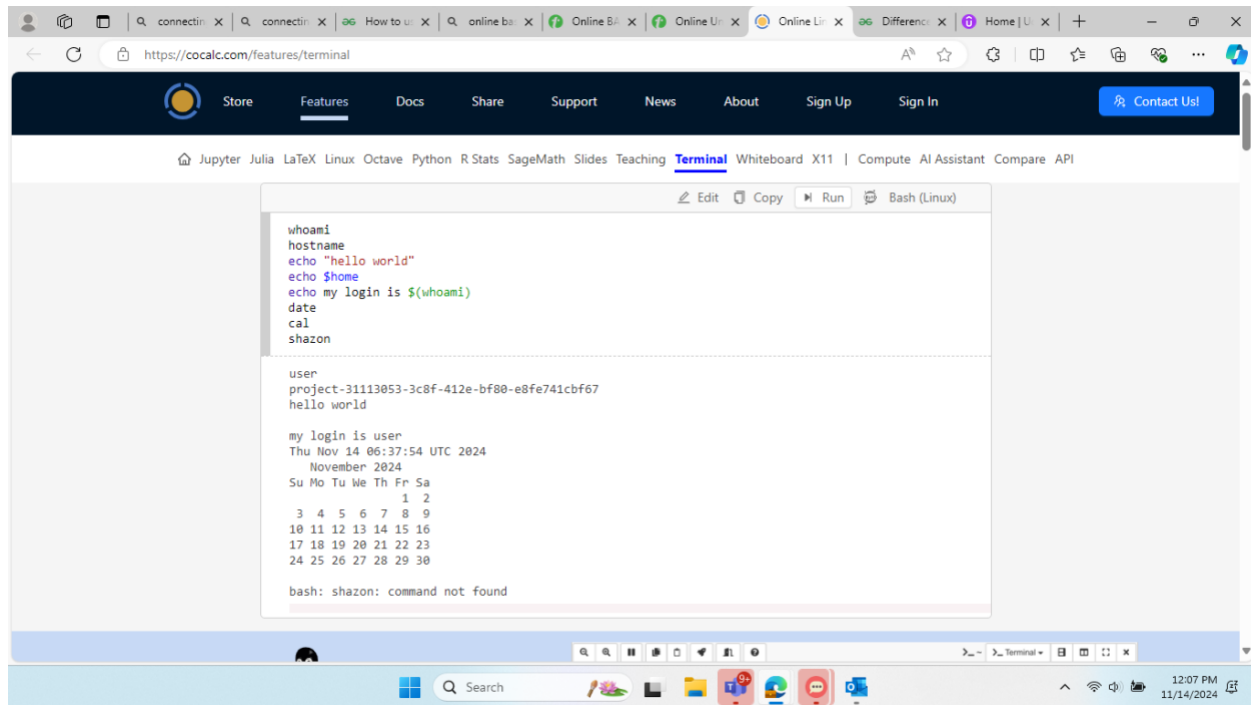echo my login is $(whoami)   #replace $(xx) with program o/p

date   #current date and time

cal   #month of a calender

shazone   # bad command

Commands: Selected text processing utilities-

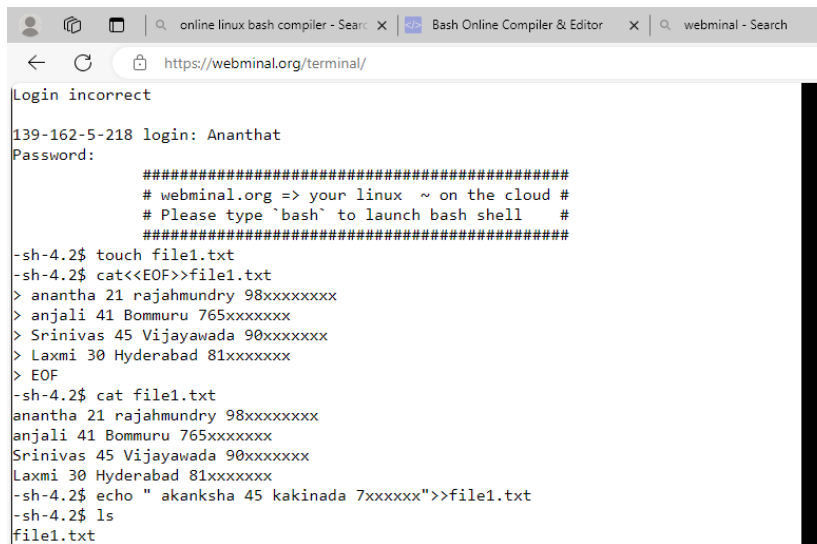- **awk** – **(Aho, Weinberger, and Kernighan)**

  It is a versatilke text processing tool for extracting and manipulating data. It processes text files line by line, allowing you to perform calculations, format output, and generate reports.

  Syntax : awk options 'selection _criteria {action }' input-file > output-file

  ```
  -sh-4.2$ cat file1.txt
  anantha 21 rajahmundry 98xxxxxxxx
  anjali 41 Bommuru 765xxxxxxx
  Srinivas 45 Vijayawada 90xxxxxxx
  Laxmi 30 Hyderabad 81xxxxxxx
  -sh-4.2$ echo " akanksha 45 kakinada 7xxxxxx">>file1.txt
  -sh-4.2$ ls
  file1.txt
  -sh-4.2$ cat file1.txt
  anantha 21 rajahmundry 98xxxxxxxx
  anjali 41 Bommuru 765xxxxxxx
  Srinivas 45 Vijayawada 90xxxxxxx
  Laxmi 30 Hyderabad 81xxxxxxx
   akanksha 45 kakinada 7xxxxxx
  -sh-4.2$ awk '/ 45 / {print} ' file1.txt
  Srinivas 45 Vijayawada 90xxxxxxx
   akanksha 45 kakinada 7xxxxxx
  -sh-4.2$
  ```

- **cat**-("concatenate")

  cat (short for "concatenate") is a simple but powerful command in Linux that is primarily used to display the content of text files in the terminal. It's often used for quick inspection of file contents.

  ```
  online linux bash compiler - Search  ×   Bash Online Compiler & Editor  ×   webminal - Search

  ←  C   🔒  https://webminal.org/terminal/

  Login incorrect

  139-162-5-218 login: Ananthat
  Password:
          #############################################
          # webminal.org => your linux  ~ on the cloud #
          # Please type `bash` to launch bash shell    #
          #############################################
  -sh-4.2$ touch file1.txt
  -sh-4.2$ cat<<EOF>>file1.txt
  > anantha 21 rajahmundry 98xxxxxxxx
  > anjali 41 Bommuru 765xxxxxxx
  > Srinivas 45 Vijayawada 90xxxxxxx
  > Laxmi 30 Hyderabad 81xxxxxxx
  > EOF
  -sh-4.2$ cat file1.txt
  anantha 21 rajahmundry 98xxxxxxxx
  anjali 41 Bommuru 765xxxxxxx
  Srinivas 45 Vijayawada 90xxxxxxx
  Laxmi 30 Hyderabad 81xxxxxxx
  -sh-4.2$ echo " akanksha 45 kakinada 7xxxxxx">>file1.txt
  -sh-4.2$ ls
  file1.txt
  ```

- **cut** -

  cut is used for extracting sections from each line of files. The cut command in linux is a command for cutting out the sections from each line of files and writing the result to standard output. It can be used to cut parts of a line by byte position, character, and field.

  Syntax: cut OPTION… [FILE]…

```
HelloWorld.sh

1  echo "Hello, World!" | cut -c 1-5
```

Output:

Hello

- **diff-**

  diff stands for **difference** .The diff command is a versatile utility that is pre-installed on most Linux distributions. Its primary purpose is to compare the contents of two files and display the differences between them.

  Basic syntax of the diff command is as follows:

  diff [OPTION]... FILE1 FILE2

```
> EOF
-sh-4.2$ cat file1.txt
anantha 21 rajahmundry 98xxxxxxxx
anjali 41 Bommuru 765xxxxxxx
Srinivas 45 Vijayawada 90xxxxxxxx
Laxmi 30 Hyderabad 81xxxxxxx
 akanksha 45 kakinada 7xxxxxx
Kavya 34 yeleswaram 7777xxxxx
Swathi 48 tuni 5667xxxx
Amwia 100 happyplace xxxxxxxx
-sh-4.2$ cat dupfile.txt
anantha 21 rajahmundry 98xxxxxxxx
anjali 41 Bommuru 765xxxxxxx
Srinivas 45 Vijayawada 90xxxxxxxx
Laxmi 30 Hyderabad 81xxxxxxx
 akanksha 45 kakinada 7xxxxxx
-sh-4.2$ diff file1.txt dupfile.txt
6,8d5
< Kavya 34 yeleswaram 7777xxxxx
< Swathi 48 tuni 5667xxxx
< Amwia 100 happyplace xxxxxxxx
-sh-4.2$
```

- **grep -(Global Regular Expression Print)**

  grep is used for searching text using patterns.Regular expressions provide a powerful way to specify complex search patterns, including character sequences, wildcards, and repetition rules

  Syntax: grep [options] pattern [files]

```
1 touch geekfile.txt
2 cat<<EOF>> geekfile.txt
3 unix is great os. unix was developed in Bell labs.
4 Unix linux which one you choose.
5 uNix is easy to learn.unix is a multiuser os.Learn
6 LINUx unix is a powerful.
7 EOF
8 grep -i "LINUX" geekfile.txt
```

Program input

Output

```
Unix linux which one you choose.
LINUx unix is a powerful.

[Execution complete with exit code 0]
```

- **head-**

  The head command displays the first *n* lines of a text file. The default number of lines in *10* if *n* is not specified.
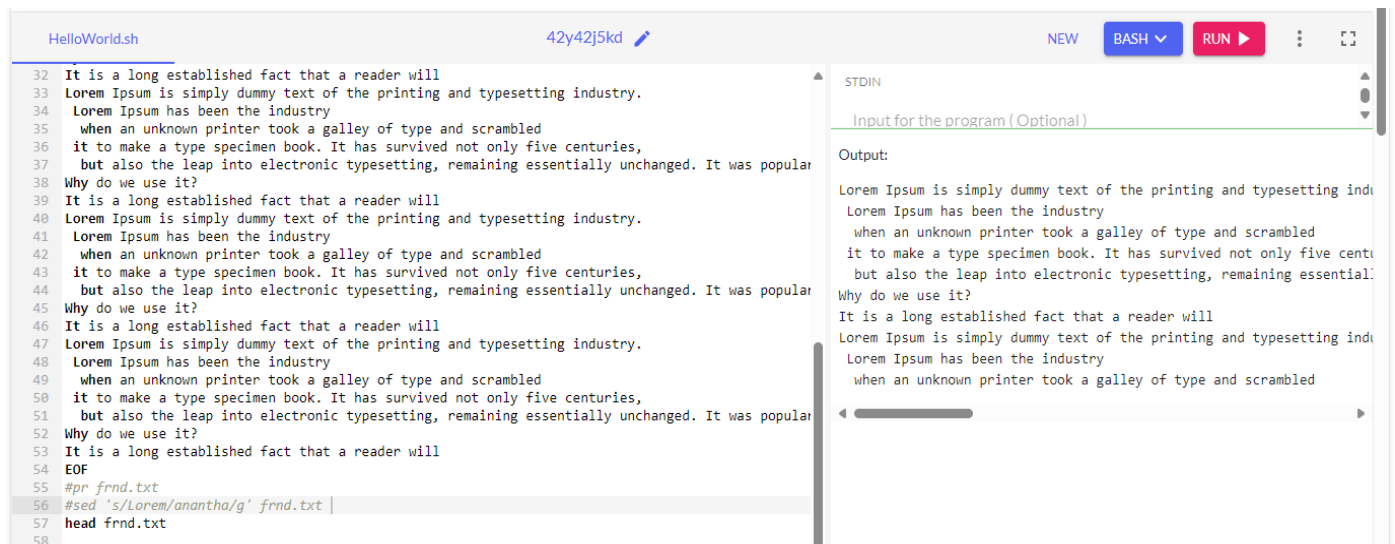
  Syntax:

  To display the first *10* lines we write

          head filename.txt

  To display the first n lines we write,

          head -n filename.txt

- **less-**

  The 'less' command in Linux is an indispensable utility for browsing the contents of text files interactively. Unlike traditional text editors, 'less' allows you to view text files page by page without loading the entire file into memory.

  Syntax :less [options] filename

- **od-**

  od stands for octal dump, this command is used to display contents of a file in different formats such as *octal*, *hexadecimal*, *ASCII* characters, *decimals*.

  To display a file in *octal* format we write,

  Syntax :od -b test.txt
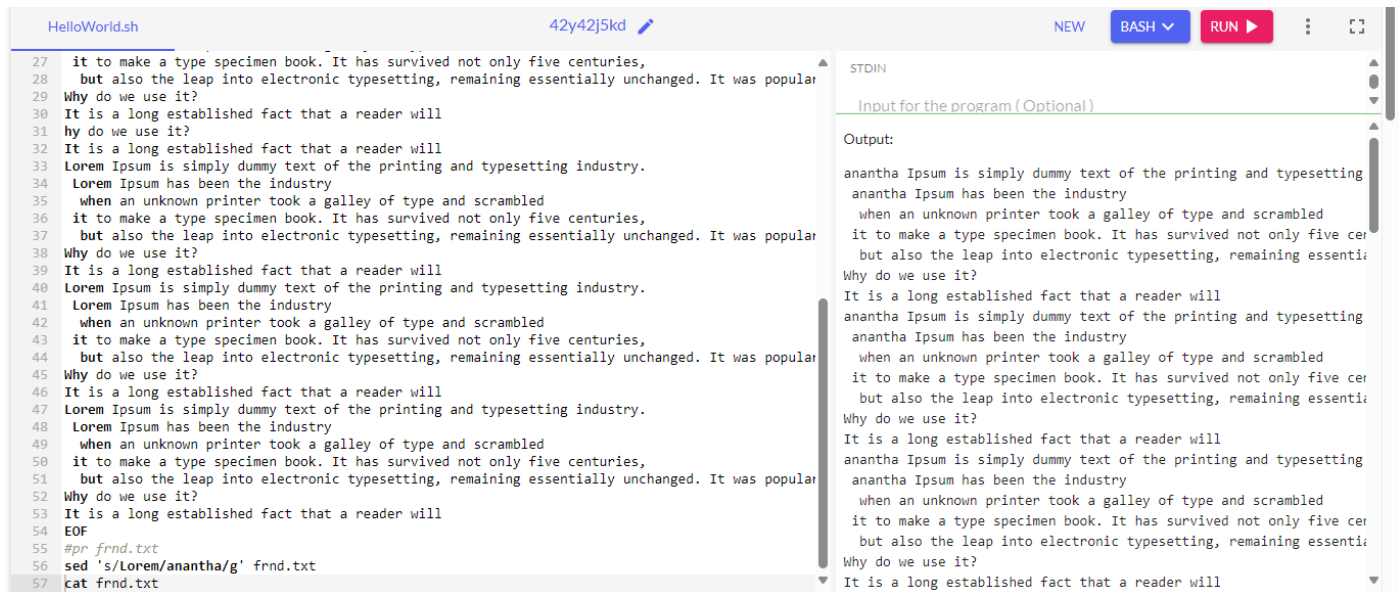
- **sed – (Stream Editor)**

  sed is a stream editor that enables non-interactive text manipulation. It allows you to modify, replace, or delete text patterns in files. It works by processing text line by line, applying a set of editing commands specified in a script or directly on the command line.

  Syntax: sed [OPTIONS] 'SCRIPT' [INPUTFILE...]

- **Sort-**

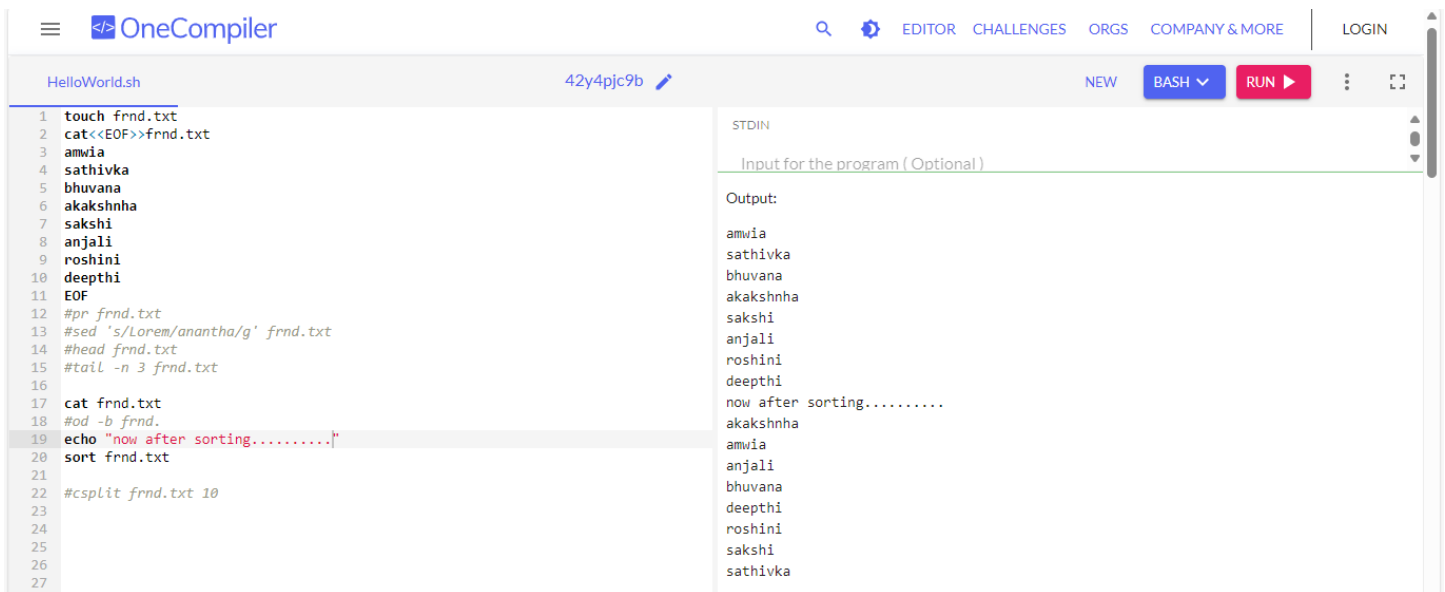 We can also sort output alphabetically using the sort command.

  Syntax:

  To sort the file test.txt we write,

  sort test.text

  Given a file of numbers we can sort it numerically using the *-n* option,

  sort -n numericalFile.txt

- **Split-**

  to split a text file based on a regular expression with the help of a few popular text-processing utilities in Linux.The standard use case for *csplit* utility is for text files containing headers or titles and using them as a delimiter. Let's split our input file using the regex for the header

  Syntax: $ csplit tables.txt
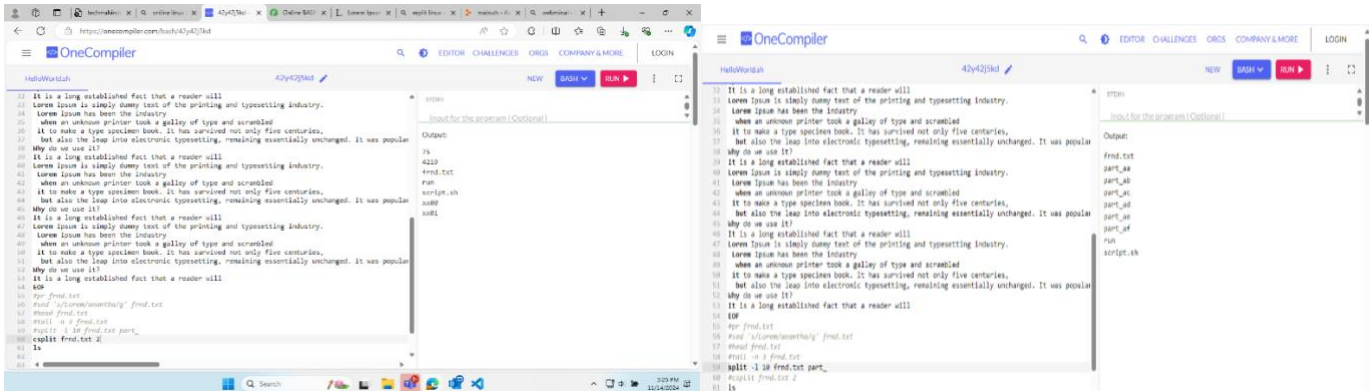
- **Tail-**

  The *tail* command works the same as the head command but in reverse, that is it displays lines from the bottom of a text file.
  To display the last *10* lines(default), we write,
  Syntax: tail test.txt
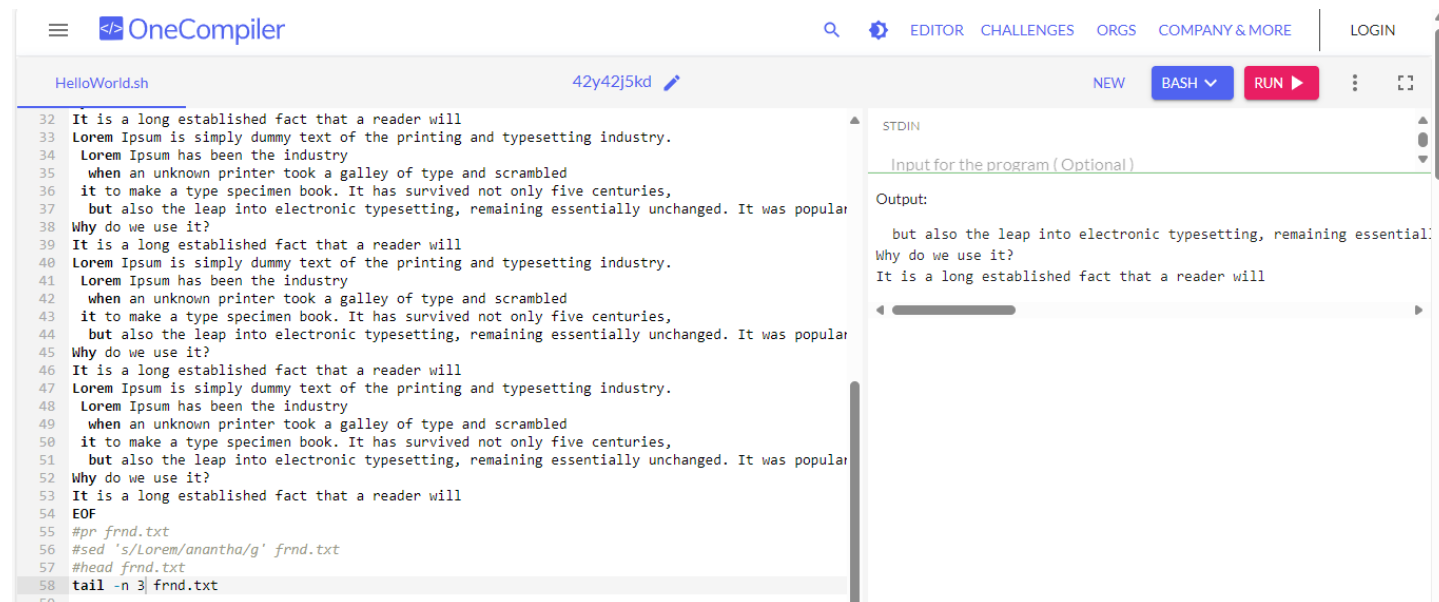
- **Tr-**

  It supports a range of transformations including uppercase to lowercase, squeezing repeating characters, deleting specific characters, and basic find and replace. It can be used with UNIX pipes to support more complex translation. **tr stands for translate.**

  Syntax: $ tr [OPTION] SET1 [SET2]

- **Uniq-**

  The **uniq** command in Linux is a command-line utility that reports or filters out the repeated lines in a file. In simple words, **uniq** is the tool that helps to detect the adjacent duplicate lines and also deletes the duplicate lines.

  Syntax: uniq [OPTIONS] [INPUT_FILE [OUTPUT_FILE]]

- **Wc-**

  wc stands for word count, this command counts the words, characters and lines in a file.

    Syntax : wc test.txt

  By default this command will give all three counts, that is words, characters and lines however we can use options to control this.

    Syntax: wc -l test.txt

Practice Sessions:

1.Create a file and enter the data in it
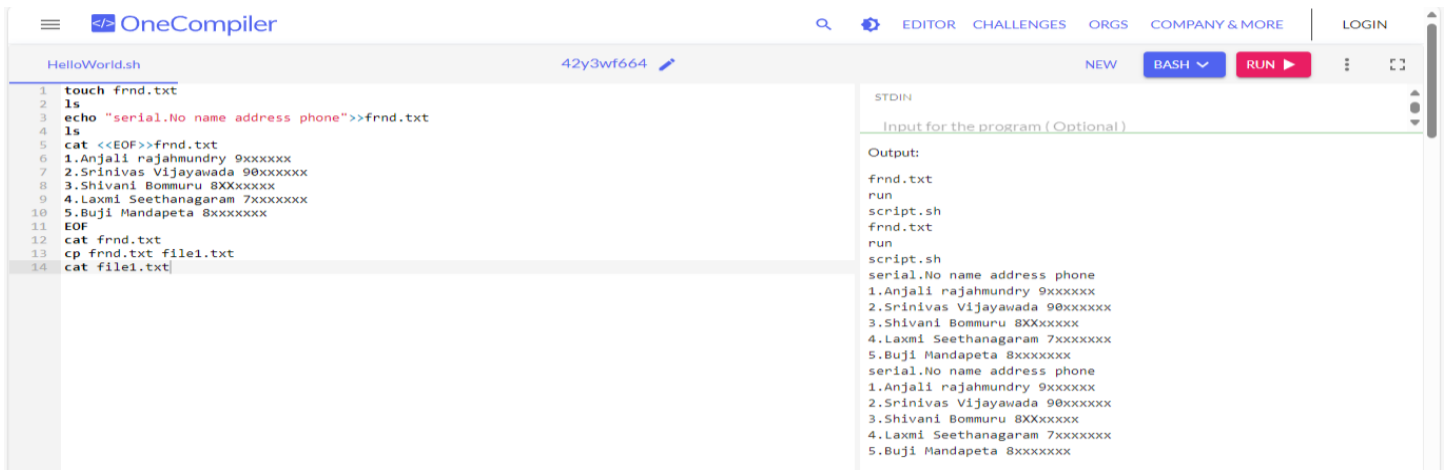
2. Copy the created file to the new file

```
1  touch frnd.txt
2  ls
3  echo "serial.No name address phone">>frnd.txt
4  ls
5  cat <<EOF>>frnd.txt
6  1.Anjali rajahmundry 9xxxxxx
7  2.Srinivas Vijayawada 90xxxxxx
8  3.Shivani Bommuru 8XXxxxxx
9  4.Laxmi Seethanagaram 7xxxxxxx
10 5.Buji Mandapeta 8xxxxxxx
11 EOF
12 cat frnd.txt
13 cp frnd.txt file1.txt
14 cat file1.txt
```
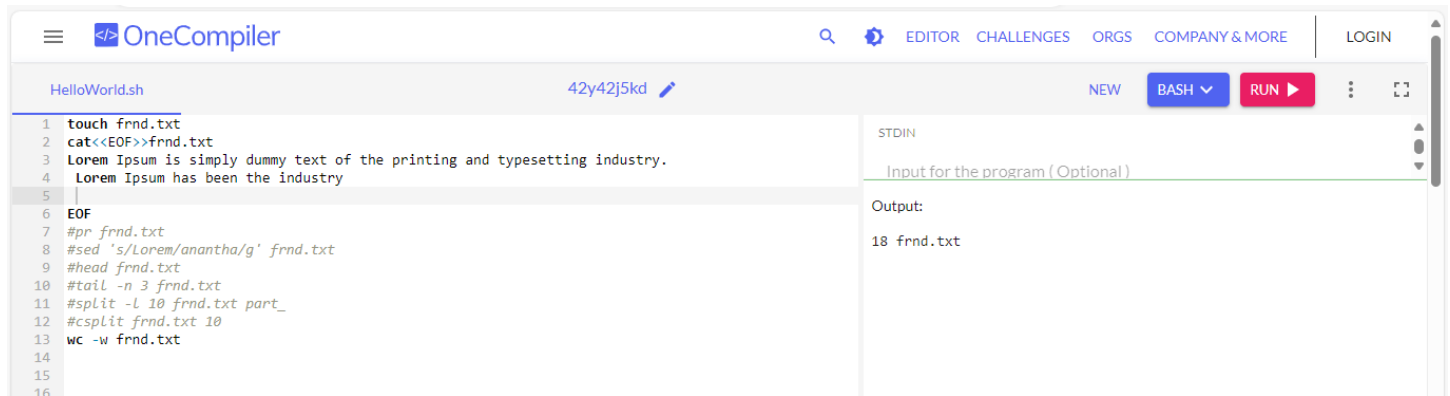
```
STDIN
Input for the program ( Optional )

Output:

frnd.txt
run
script.sh
frnd.txt
run
script.sh
serial.No name address phone
1.Anjali rajahmundry 9xxxxxx
2.Srinivas Vijayawada 90xxxxxx
3.Shivani Bommuru 8XXxxxxx
4.Laxmi Seethanagaram 7xxxxxxx
5.Buji Mandapeta 8xxxxxxx
serial.No name address phone
1.Anjali rajahmundry 9xxxxxx
2.Srinivas Vijayawada 90xxxxxx
3.Shivani Bommuru 8XXxxxxx
4.Laxmi Seethanagaram 7xxxxxxx
5.Buji Mandapeta 8xxxxxxx
```

3.Move the file to new file


```
1  touch frnd.txt
2  ls
3  echo "serial.No name address phone">>frnd.txt
4  ls
5  cat <<EOF>>frnd.txt
6  1.Anjali rajahmundry 9xxxxxx
7  2.Srinivas Vijayawada 90xxxxxx
8  3.Shivani Bommuru 8XXxxxxx
9  4.Laxmi Seethanagaram 7xxxxxxx
10 5.Buji Mandapeta 8xxxxxxx
11 EOF
12 cat frnd.txt
13 # copy of file
14 cp frnd.txt file1.txt
15 cat file1.txt
16 #move the file1
17 mv file1.txt file3.txt
18 cat file1.txt
19 cat file3.txt
```

```
STDIN
Input for the program ( Optional )
frnd.txt
run
script.sh
serial.No name address phone
1.Anjali rajahmundry 9xxxxxx
2.Srinivas Vijayawada 90xxxxxx
3.Shivani Bommuru 8XXxxxxx
4.Laxmi Seethanagaram 7xxxxxxx
5.Buji Mandapeta 8xxxxxxx
serial.No name address phone
1.Anjali rajahmundry 9xxxxxx
2.Srinivas Vijayawada 90xxxxxx
3.Shivani Bommuru 8XXxxxxx
4.Laxmi Seethanagaram 7xxxxxxx
5.Buji Mandapeta 8xxxxxxx
serial.No name address phone
1.Anjali rajahmundry 9xxxxxx
2.Srinivas Vijayawada 90xxxxxx
3.Shivani Bommuru 8XXxxxxx
4.Laxmi Seethanagaram 7xxxxxxx
5.Buji Mandapeta 8xxxxxxx

cat: file1.txt: No such file or directory
```
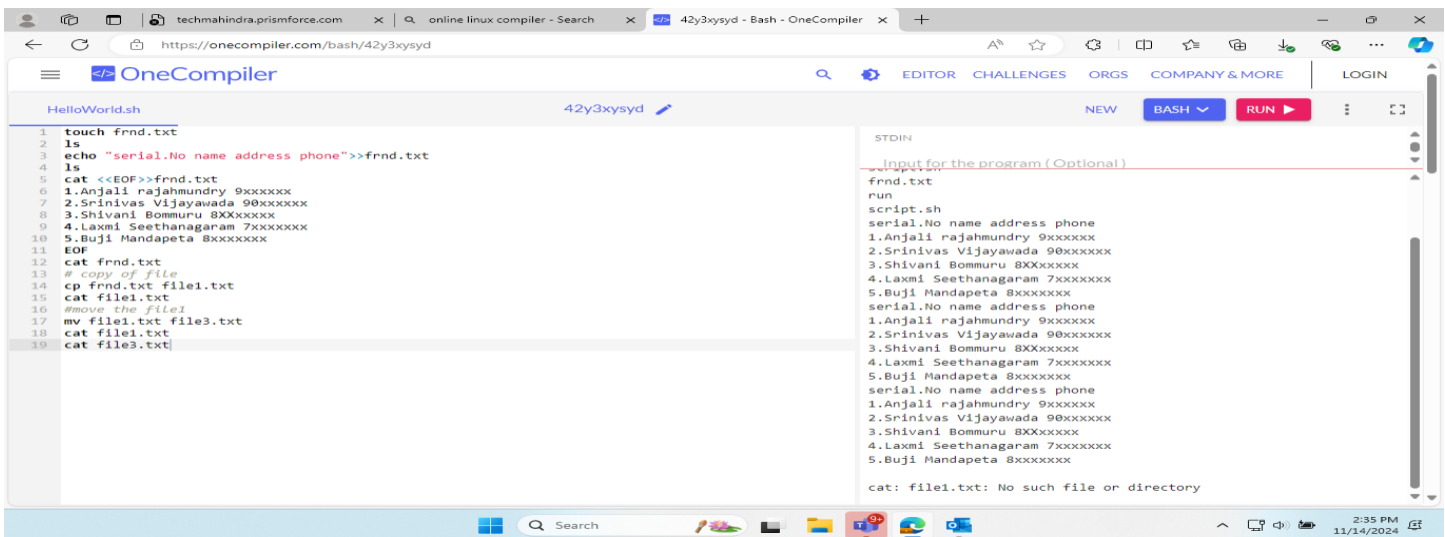
4.remove the file


```
1  touch frnd.txt
2  ls
3  echo "serial.No name address phone">>frnd.txt
4  ls
5  cat <<EOF>>frnd.txt
6  1.Anjali rajahmundry 9xxxxxx
7  2.Srinivas Vijayawada 90xxxxxx
8  3.Shivani Bommuru 8XXxxxxx
9  4.Laxmi Seethanagaram 7xxxxxxx
10 5.Buji Mandapeta 8xxxxxxx
11 EOF
12 cat frnd.txt
13 # copy of file
14 cp frnd.txt file1.txt
15 cat file1.txt
16 #move the file1
17 mv file1.txt file3.txt
18 cat file1.txt
19 cat file3.txt
20 rm file3.txt
21 cat file3.txt
```
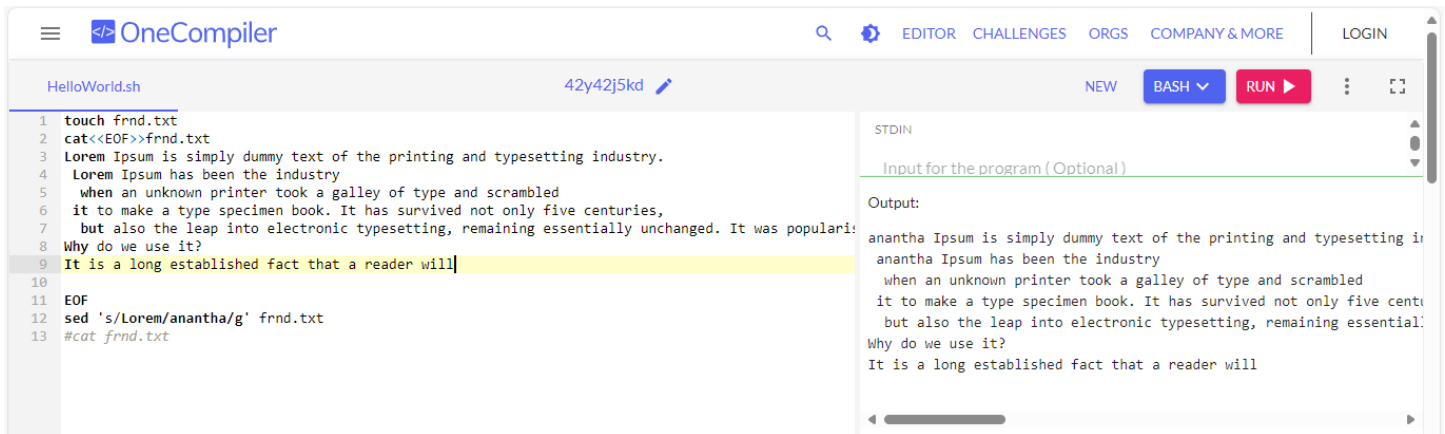
```
STDIN
Input for the program ( Optional )
run
script.sh
serial.No name address phone
1.Anjali rajahmundry 9xxxxxx
2.Srinivas Vijayawada 90xxxxxx
3.Shivani Bommuru 8XXxxxxx
4.Laxmi Seethanagaram 7xxxxxxx
5.Buji Mandapeta 8xxxxxxx
serial.No name address phone
1.Anjali rajahmundry 9xxxxxx
2.Srinivas Vijayawada 90xxxxxx
3.Shivani Bommuru 8XXxxxxx
4.Laxmi Seethanagaram 7xxxxxxx
5.Buji Mandapeta 8xxxxxxx
serial.No name address phone
1.Anjali rajahmundry 9xxxxxx
2.Srinivas Vijayawada 90xxxxxx
3.Shivani Bommuru 8XXxxxxx
4.Laxmi Seethanagaram 7xxxxxxx
5.Buji Mandapeta 8xxxxxxx

cat: file1.txt: No such file or directory
cat: file3.txt: No such file or directory
```
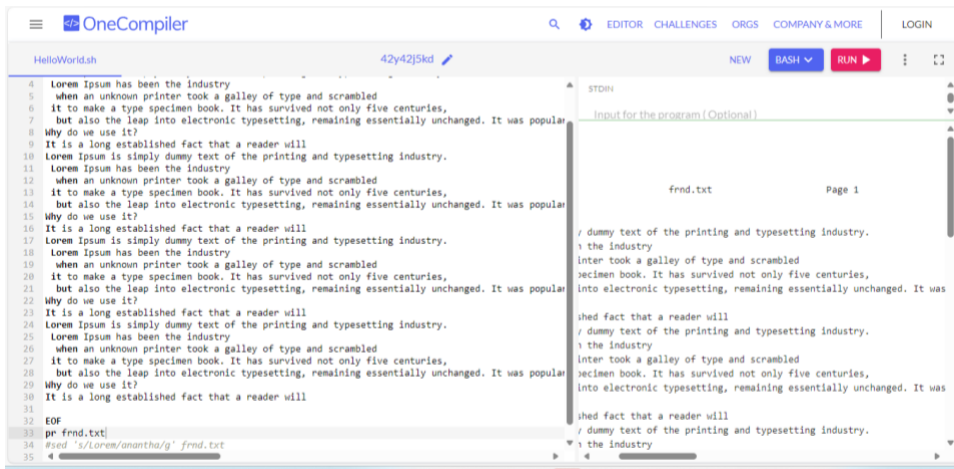
5.replace a word with new another word in the file

6.Create pages in the given file

7.Print starting few lines of content in the file


```
32   It is a long established fact that a reader will
33   Lorem Ipsum is simply dummy text of the printing and typesetting industry.
34    Lorem Ipsum has been the industry
35     when an unknown printer took a galley of type and scrambled
36    it to make a type specimen book. It has survived not only five centuries,
37     but also the leap into electronic typesetting, remaining essentially unchanged. It was popular
38   Why do we use it?
39   It is a long established fact that a reader will
40   Lorem Ipsum is simply dummy text of the printing and typesetting industry.
41    Lorem Ipsum has been the industry
42     when an unknown printer took a galley of type and scrambled
43    it to make a type specimen book. It has survived not only five centuries,
44     but also the leap into electronic typesetting, remaining essentially unchanged. It was popular
45   Why do we use it?
46   It is a long established fact that a reader will
47   Lorem Ipsum is simply dummy text of the printing and typesetting industry.
48    Lorem Ipsum has been the industry
49     when an unknown printer took a galley of type and scrambled
50    it to make a type specimen book. It has survived not only five centuries,
51     but also the leap into electronic typesetting, remaining essentially unchanged. It was popular
52   Why do we use it?
53   It is a long established fact that a reader will
54   EOF
55   #pr frnd.txt
56   #sed 's/Lorem/anantha/g' frnd.txt
57   head frnd.txt
58
```

Output:

```
Lorem Ipsum is simply dummy text of the printing and typesetting indu
 Lorem Ipsum has been the industry
  when an unknown printer took a galley of type and scrambled
 it to make a type specimen book. It has survived not only five centu
  but also the leap into electronic typesetting, remaining essentiall
Why do we use it?
It is a long established fact that a reader will
Lorem Ipsum is simply dummy text of the printing and typesetting indu
 Lorem Ipsum has been the industry
  when an unknown printer took a galley of type and scrambled
```
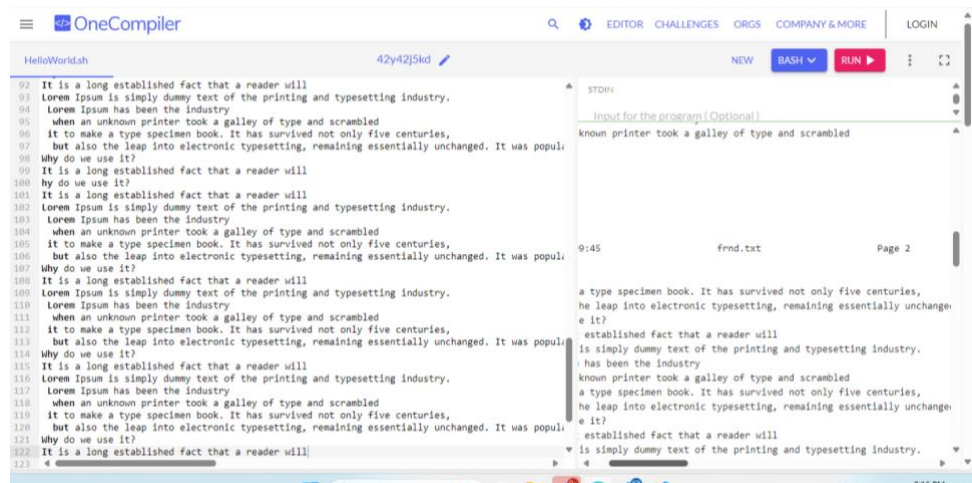
8. print last few lines of content in the file


```
32   It is a long established fact that a reader will
33   Lorem Ipsum is simply dummy text of the printing and typesetting industry.
34    Lorem Ipsum has been the industry
35     when an unknown printer took a galley of type and scrambled
36    it to make a type specimen book. It has survived not only five centuries,
37     but also the leap into electronic typesetting, remaining essentially unchanged. It was popular
38   Why do we use it?
39   It is a long established fact that a reader will
40   Lorem Ipsum is simply dummy text of the printing and typesetting industry.
41    Lorem Ipsum has been the industry
42     when an unknown printer took a galley of type and scrambled
43    it to make a type specimen book. It has survived not only five centuries,
44     but also the leap into electronic typesetting, remaining essentially unchanged. It was popular
45   Why do we use it?
46   It is a long established fact that a reader will
47   Lorem Ipsum is simply dummy text of the printing and typesetting industry.
48    Lorem Ipsum has been the industry
49     when an unknown printer took a galley of type and scrambled
50    it to make a type specimen book. It has survived not only five centuries,
51     but also the leap into electronic typesetting, remaining essentially unchanged. It was popular
52   Why do we use it?
53   It is a long established fact that a reader will
54   EOF
55   #pr frnd.txt
56   #sed 's/Lorem/anantha/g' frnd.txt
57   #head frnd.txt
58   tail -n 3 frnd.txt
59
```

Output:

```
  but also the leap into electronic typesetting, remaining essentiall
Why do we use it?
It is a long established fact that a reader will
```

9.Split the file

```
32  It is a long established fact that a reader will
33  Lorem Ipsum is simply dummy text of the printing and typesetting industry.
34   Lorem Ipsum has been the industry
35    when an unknown printer took a galley of type and scrambled
36   it to make a type specimen book. It has survived not only five centuries,
37    but also the leap into electronic typesetting, remaining essentially unchanged. It was popular
38  Why do we use it?
39  It is a long established fact that a reader will
40  Lorem Ipsum is simply dummy text of the printing and typesetting industry.
41   Lorem Ipsum has been the industry
42    when an unknown printer took a galley of type and scrambled
43   it to make a type specimen book. It has survived not only five centuries,
44    but also the leap into electronic typesetting, remaining essentially unchanged. It was popular
45  Why do we use it?
46  It is a long established fact that a reader will
47  Lorem Ipsum is simply dummy text of the printing and typesetting industry.
48   Lorem Ipsum has been the industry
49    when an unknown printer took a galley of type and scrambled
50   it to make a type specimen book. It has survived not only five centuries,
51    but also the leap into electronic typesetting, remaining essentially unchanged. It was popular
52  Why do we use it?
53  It is a long established fact that a reader will
54  EOF
55  #pr frnd.txt
56  #sed 's/Lorem/anantha/g' frnd.txt
57  #head frnd.txt
58  #tail -n 3 frnd.txt
59  #split -l 10 frnd.txt part_
60  csplit frnd.txt 2
61  ls
62
63
```

STDIN

Input for the program (Optional)

Output:
```
75
4219
frnd.txt
run
script.sh
xx00
xx01
```

10. Do the word count of the content in the file


```
10    the release of Letraset sheets containing Lorem Ipsum passages, and more recently with
11    desktop publishing software
12    like Aldus PageMaker including versions of Lorem Ipsum.
13  Why do we use it?
14  It is a long established fact that a reader will be distracted by the
15  readable content of a page when looking at its layout. The point of using Lorem
16  Ipsum is that it has a more-or-less normal distribution of letters, as opposed to
17  using 'Content here, content here', making it look like readable English. Many desktop
18  publishing packages and web page editors now use Lorem Ipsum as their default model text,
19  and a search for 'lorem ipsum' will uncover many web sites still in their infancy.
20  Various versions have evolved over the years, sometimes by accident, sometimes on purpose
21  (injected humour and the like).
22  Where does it come from?
23  Contrary to popular belief, Lorem Ipsum is not simply random text.
24  It has roots in a piece of classical Latin literature from 45 BC, making it over
25  2000 years old. Richard McClintock, a Latin professor at Hampden-Sydney College in
26  Virginia, looked up one of the more obscure Latin words, consectetur, from a Lorem Ipsum
27  passage, and going through the cites of the word in classical literature, discovered the
28  undoubtable source. Lorem Ipsum comes from sections 1.10.32 and 1.10.33
29  written in 45 BC. This book is a treatise on the theory of ethics, very popular during
30  the Renaissance. The first line of Lorem Ipsuby English versions from
31  the 1914 translation by H. Rackham.
32  EOF
33  #pr frnd.txt
34  #sed 's/Lorem/anantha/g' frnd.txt
35  #head frnd.txt
36  #tail -n 3 frnd.txt
37  split -n 2 frnd.txt
38  ls
39  wc -w xaa
40  wc -w xab
41  wc -w frnd.txt
```

STDIN

Input for the program (Optional)

Output:
```
frnd.txt
run
script.sh
xaa
xab
169 xaa
168 xab
336 frnd.txt
```