

OS Practical No. 3

Aim:

1. Write a shell script to generate mark- sheet of a student. Take 3 subjects, calculate and display total marks, percentage and Class obtained by the student.

Code:

```
echo "Enter marks of English"
read m1
echo "Enter marks of
Maths" read m2
echo "Enter marks of science"
read m3
total=$((m1+m2+m3))
percentage=$((total/3))
echo "Student: Total Marks =
$total" echo "Percentage =
$percentage"
if [ $percentage -gt 75 ]; then
    echo "Class: Distinction"
elif [ $percentage -gt 60 ]; then
    echo "Class: First Class"
elif [ $percentage -gt 40 ]; then
    echo "Class: Second Class"
elif [ $percentage -gt 35 ]; then
    echo "Class: Third Class"
else
    echo "Class: Fail"
fi
```

Output:

```
Terminal  Shell  Edit  View  Window  Help
devanshu — zsh — 211x56

Last login: Fri Jan 23 16:05:17 on ttys000
devanshu@Devanshus-MacBook-Air ~ % echo "Enter marks of English"
read m1
echo "Enter marks of Maths"
read m2
echo "Enter marks of science"
read m3
total=$((m1+m2+m3))
percentage=$((total/3))
echo "Student: Total Marks = $total"
echo "Percentage = $percentage"
if [ $percentage -gt 75 ]; then
    echo "Class: Distinction"
elif [ $percentage -gt 60 ]; then
    echo "Class: First Class"
elif [ $percentage -gt 40 ]; then
    echo "Class: Second Class"
elif [ $percentage -gt 35 ]; then
    echo "Class: Third Class"
else
    echo "Class: Fail"
fi
"Enter marks of English"
99
"Enter marks of Maths"
99
"Enter marks of science"
99
"Student: Total Marks = 297"
"Percentage = 99"
"Class: Distinction"
devanshu@Devanshus-MacBook-Air ~ %
```

2. Write a menu driven shell script which will print the following menu and execute the given task.

Code:

```
#!/bin/bash
echo "1) Calendar 2) Date & Time 3) Logged Users 4) Terminal"
read ch
case $ch in
1) cal ;;
2) date ;;
3) who | awk '{print $1}' | uniq ;;
4) tty ;;
*) echo "Invalid choice" ;;
Esac
```

- Display calendar of current month

```
devanshu@Devanshus-MacBook-Air ~ % #!/bin/bash

echo "1) Calendar 2) Date & Time 3) Logged Users 4) Terminal"
read ch

case $ch in
1) cal ;;
2) date ;;
3) who | awk '{print $1}' | uniq ;;
4) tty ;;
*) echo "Invalid choice" ;;
esac

#/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"

echo "1) Calendar 2) Date & Time 3) Logged Users 4) Terminal"
read ch

case $ch in
1) cal ;;
2) date ;;
3) who | awk '{print $1}' | uniq ;;
4) tty ;;
*) echo "Invalid choice" ;;
esac

zsh: no such file or directory: #/bin/bash
1) Calendar 2) Date & Time 3) Logged Users 4) Terminal
1
    January 2026
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

devanshu@Devanshus-MacBook-Air ~ %
```

● Display today's date and time

```
Terminal  Shell  Edit  View  Window  Help
devanshu — -zsh — 241x64

devanshu@Devanshus-MacBook-Air ~ % #!/bin/bash

echo "1) Calendar  2) Date & Time  3) Logged Users  4) Terminal"
read ch

case $ch in
1) cal ;;
2) date ;;
3) who | awk '{print $1}' | uniq ;;
4) tty ;;
*) echo "Invalid choice" ;;
esac

#/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"

echo "1) Calendar  2) Date & Time  3) Logged Users  4) Terminal"
read ch

case $ch in
1) cal ;;
2) date ;;
3) who | awk '{print $1}' | uniq ;;
4) tty ;;
*) echo "Invalid choice" ;;
esac

zsh: no such file or directory: #/bin/bash
1) Calendar  2) Date & Time  3) Logged Users  4) Terminal
2
Fri Jan 23 16:39:29 IST 2026
devanshu@Devanshus-MacBook-Air ~ %
```

● Display usernames those are currently logged in the system

```
Terminal  Shell  Edit  View  Window  Help
devanshu — -zsh — 241x64

devanshu@Devanshus-MacBook-Air ~ % #!/bin/bash

echo "1) Calendar  2) Date & Time  3) Logged Users  4) Terminal"
read ch

case $ch in
1) cal ;;
2) date ;;
3) who | awk '{print $1}' | uniq ;;
4) tty ;;
*) echo "Invalid choice" ;;
esac

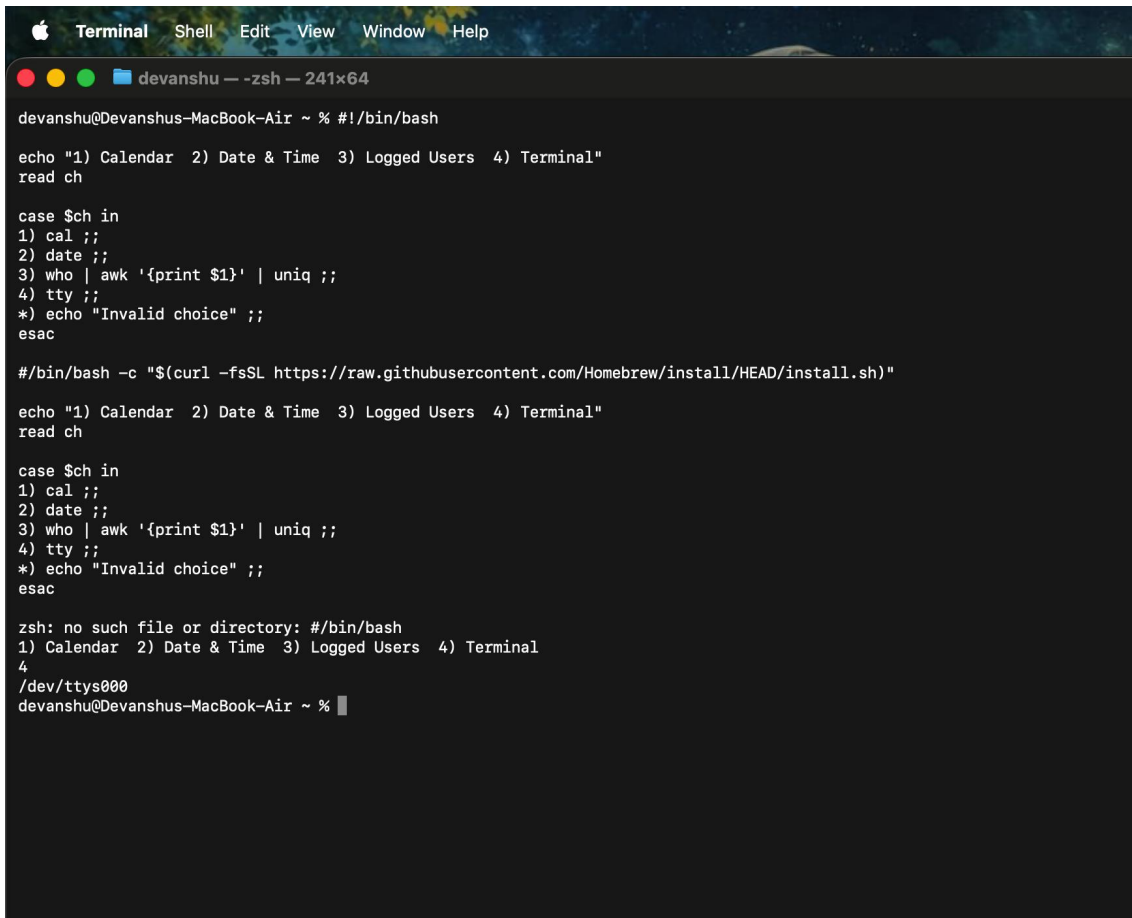
#/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"

echo "1) Calendar  2) Date & Time  3) Logged Users  4) Terminal"
read ch

case $ch in
1) cal ;;
2) date ;;
3) who | awk '{print $1}' | uniq ;;
4) tty ;;
*) echo "Invalid choice" ;;
esac

zsh: no such file or directory: #/bin/bash
1) Calendar  2) Date & Time  3) Logged Users  4) Terminal
3
devanshu
devanshu@Devanshus-MacBook-Air ~ %
```

- Display your terminal number

A screenshot of a macOS Terminal window. The title bar shows 'Terminal' with menu options 'Shell', 'Edit', 'View', 'Window', and 'Help'. The window title is 'devanshu - zsh - 241x64'. The terminal content shows a script that prints a menu with four options: '1) Calendar', '2) Date & Time', '3) Logged Users', and '4) Terminal'. It then reads a character and uses a case statement to execute commands: 'cal' for option 1, 'date' for option 2, 'who | awk '{print \$1}' | uniq' for option 3, and 'tty' for option 4. An invalid choice results in an 'Invalid choice' message. The script then runs 'curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh' to install Homebrew. The menu is printed again. Finally, it runs 'zsh' to switch shells. The prompt changes from 'devanshu@Devanshus-MacBook-Air ~ %' to 'zsh: no such file or directory: #/bin/bash' and then back to 'devanshu@Devanshus-MacBook-Air ~ %' after the user enters '4' and the terminal switches to a new session with prompt '/dev/ttys000 devanshu@Devanshus-MacBook-Air ~ %'.`devanshu@Devanshus-MacBook-Air ~ % #!/bin/bash

echo "1) Calendar 2) Date & Time 3) Logged Users 4) Terminal"
read ch

case $ch in
1) cal ;;
2) date ;;
3) who | awk '{print $1}' | uniq ;;
4) tty ;;
*) echo "Invalid choice" ;;
esac

#/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"

echo "1) Calendar 2) Date & Time 3) Logged Users 4) Terminal"
read ch

case $ch in
1) cal ;;
2) date ;;
3) who | awk '{print $1}' | uniq ;;
4) tty ;;
*) echo "Invalid choice" ;;
esac

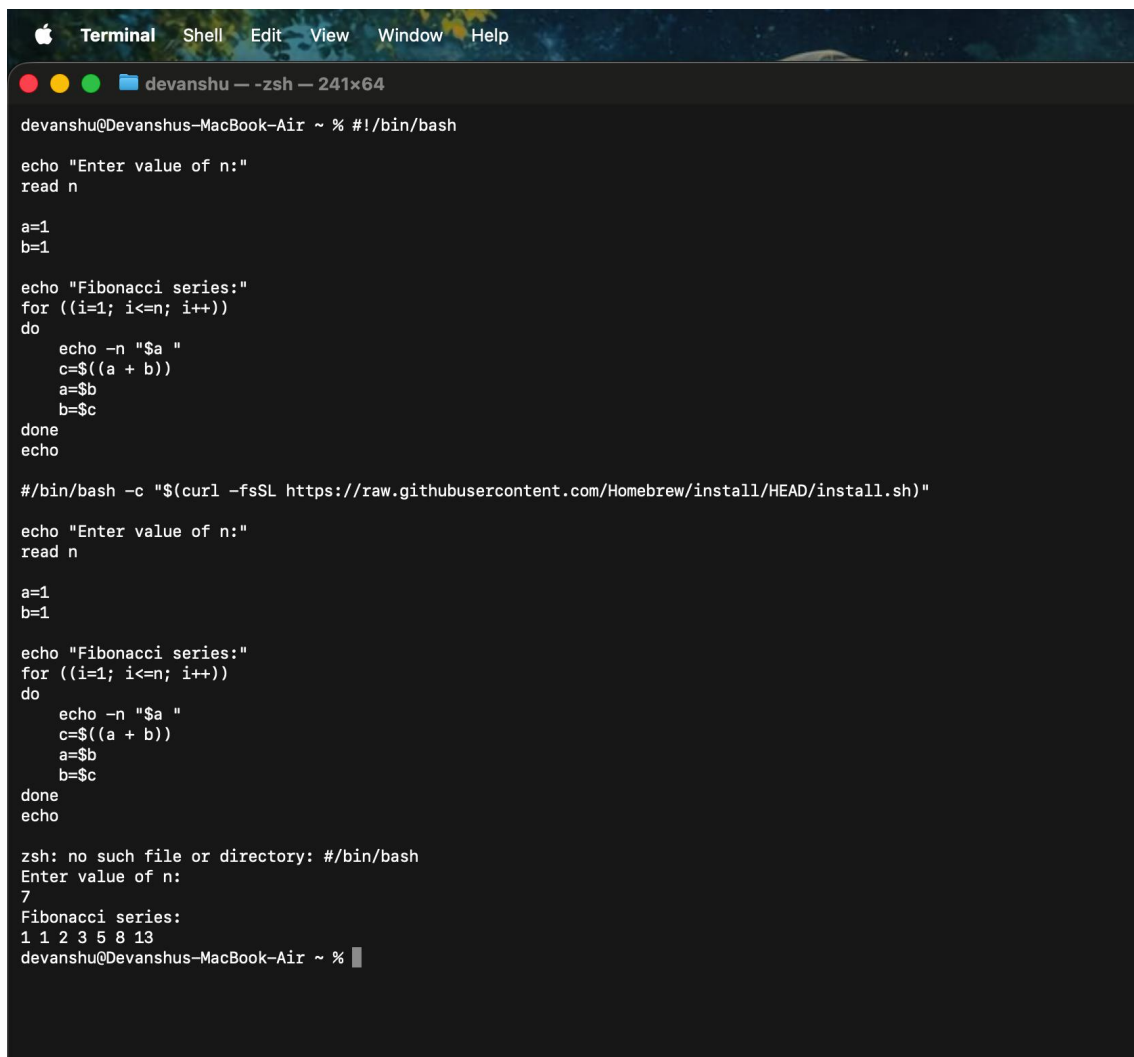
zsh: no such file or directory: #/bin/bash
1) Calendar 2) Date & Time 3) Logged Users 4) Terminal
4
/dev/ttys000
devanshu@Devanshus-MacBook-Air ~ %`

3. Write a shell script which will generate first n fibonacci numbers like:
1, 2, 3, 5, 13

Code:

```
#!/bin/bash
echo "Enter value of
n:" read n
a=1
b=1
echo "Fibonacci series:"
for ((i=1; i<=n; i++))
do
    echo -n "$a
    " c=$((a +
    b)) a=$b
    b=$c
done
echo
```

Output:



```
devanshu@Devanshus-MacBook-Air ~ % #!/bin/bash
echo "Enter value of n:"
read n

a=1
b=1

echo "Fibonacci series:"
for ((i=1; i<=n; i++))
do
    echo -n "$a "
    c=$((a + b))
    a=$b
    b=$c
done
echo

#/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"

echo "Enter value of n:"
read n

a=1
b=1

echo "Fibonacci series:"
for ((i=1; i<=n; i++))
do
    echo -n "$a "
    c=$((a + b))
    a=$b
    b=$c
done
echo

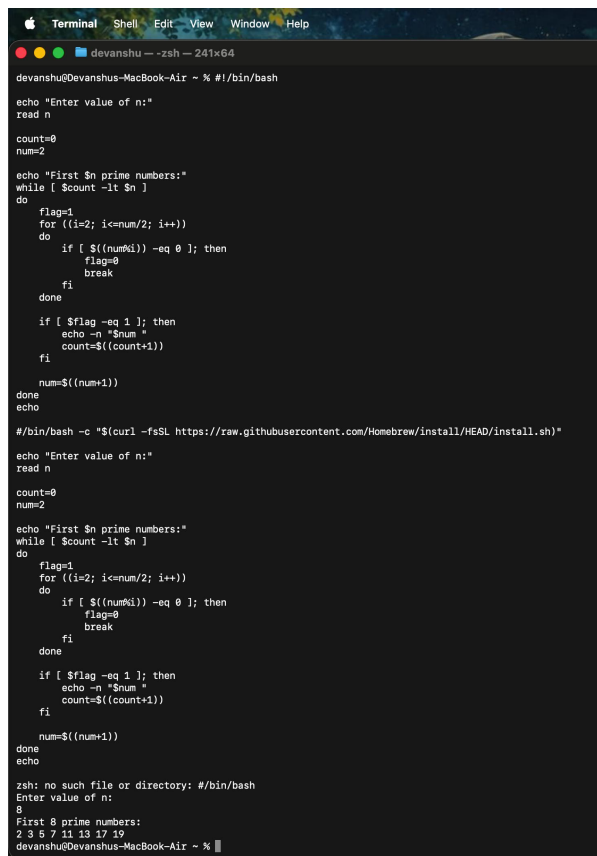
zsh: no such file or directory: #/bin/bash
Enter value of n:
7
Fibonacci series:
1 1 2 3 5 8 13
devanshu@Devanshus-MacBook-Air ~ %
```

4. Write a shell script which will accept a number b and display first n prime numbers as output

Code:

```
#!/bin/bash
echo "Enter value of
n:" read n
count=0
num=2
echo "First $n prime numbers:"
while [ $count -lt $n ]
do
    flag=1
    for ((i=2; i<=num/2; i++))
    do
        if [ $((num%i)) -eq 0 ];
        then flag=0
        Break
        fi
    done
    if [ $flag -eq 1 ];
    then echo -n
    "$num "
    count=$((count+1))
    fi
    num=$((num+1))
done
Echo
```

Output:



```
Terminal Shell Edit View Window Help
devanshu - zsh - 241x64
devanshu@Devanshu-MacBook-Air ~ % #!/bin/bash
echo "Enter value of n:"
read n
count=0
num=2
echo "First $n prime numbers:"
while [ $count -lt $n ]
do
    flag=1
    for ((i=2; i<=num/2; i++))
    do
        if [ $((num%i)) -eq 0 ]; then
            flag=0
            break
        fi
    done
    if [ $flag -eq 1 ]; then
        echo -n "$num "
        count=$((count+1))
    fi
    num=$((num+1))
done
echo

#/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
echo "Enter value of n:"
read n
count=0
num=2
echo "First $n prime numbers:"
while [ $count -lt $n ]
do
    flag=1
    for ((i=2; i<=num/2; i++))
    do
        if [ $((num%i)) -eq 0 ]; then
            flag=0
            break
        fi
    done
    if [ $flag -eq 1 ]; then
        echo -n "$num "
        count=$((count+1))
    fi
    num=$((num+1))
done
echo
zsh: no such file or directory: #/bin/bash
Enter value of n:
8
First 8 prime numbers:
2 3 5 7 11 13 17 19
devanshu@Devanshu-MacBook-Air ~ %
```

5. Write menu driven program for file handling activity

```
#!/bin/bash
echo "1) Create File"
echo "2) Write
Content"
echo "3) Append Content"
echo "4) Delete File
Content"
echo "Enter
choice:"
read ch
echo "Enter file name:"
read fname
case $ch in
1)
touch $fname
echo "File created" ;;
2)
echo "Enter content (Ctrl+D to save):"
cat > $fname ;;
3)
echo "Enter content to append (Ctrl+D to save):"
cat >> $fname ;;
4)
> $fname
echo "File content deleted" ;;
*)
echo "Invalid choice" ;;
Esac
```


Creation of file

```
Terminal Shell Edit View Window Help
devanshu — -zsh — 241x64

    echo "File created"
    ;;
2)
    echo "Enter content (Ctrl+D to save):"
    cat > $fname
    ;;
3)
    echo "Enter content to append (Ctrl+D to save):"
    cat >> $fname
    ;;
4)
    > $fname
    echo "File content deleted"
    ;;
*)
    echo "Invalid choice"
    ;;
esac

#/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"

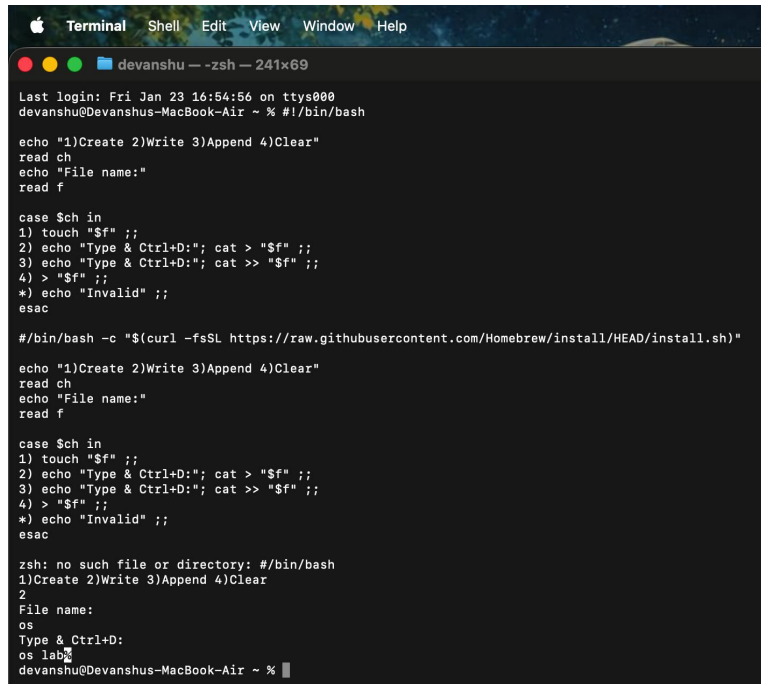
echo "1) Create File"
echo "2) Write Content"
echo "3) Append Content"
echo "4) Delete File Content"
echo "Enter choice:"
read ch

echo "Enter file name:"
read fname

case $ch in
1)
    touch $fname
    echo "File created"
    ;;
2)
    echo "Enter content (Ctrl+D to save):"
    cat > $fname
    ;;
3)
    echo "Enter content to append (Ctrl+D to save):"
    cat >> $fname
    ;;
4)
    > $fname
    echo "File content deleted"
    ;;
*)
    echo "Invalid choice"
    ;;
esac

zsh: no such file or directory: #/bin/bash
1) Create File
2) Write Content
3) Append Content
4) Delete File Content
Enter choice:
1
Enter file name:
OSlab
File created
devanshu@Devanshus-MacBook-Air ~ %
```

● Write content in the file



```
devanshu@Devanshu-MacBook-Air ~ % #!/bin/bash

echo "1)Create 2)Write 3)Append 4)Clear"
read ch
echo "File name:"
read f

case $ch in
1) touch "$f" ;;
2) echo "Type & Ctrl+D:"; cat > "$f" ;;
3) echo "Type & Ctrl+D:"; cat >> "$f" ;;
4) > "$f" ;;
*) echo "Invalid" ;;
esac

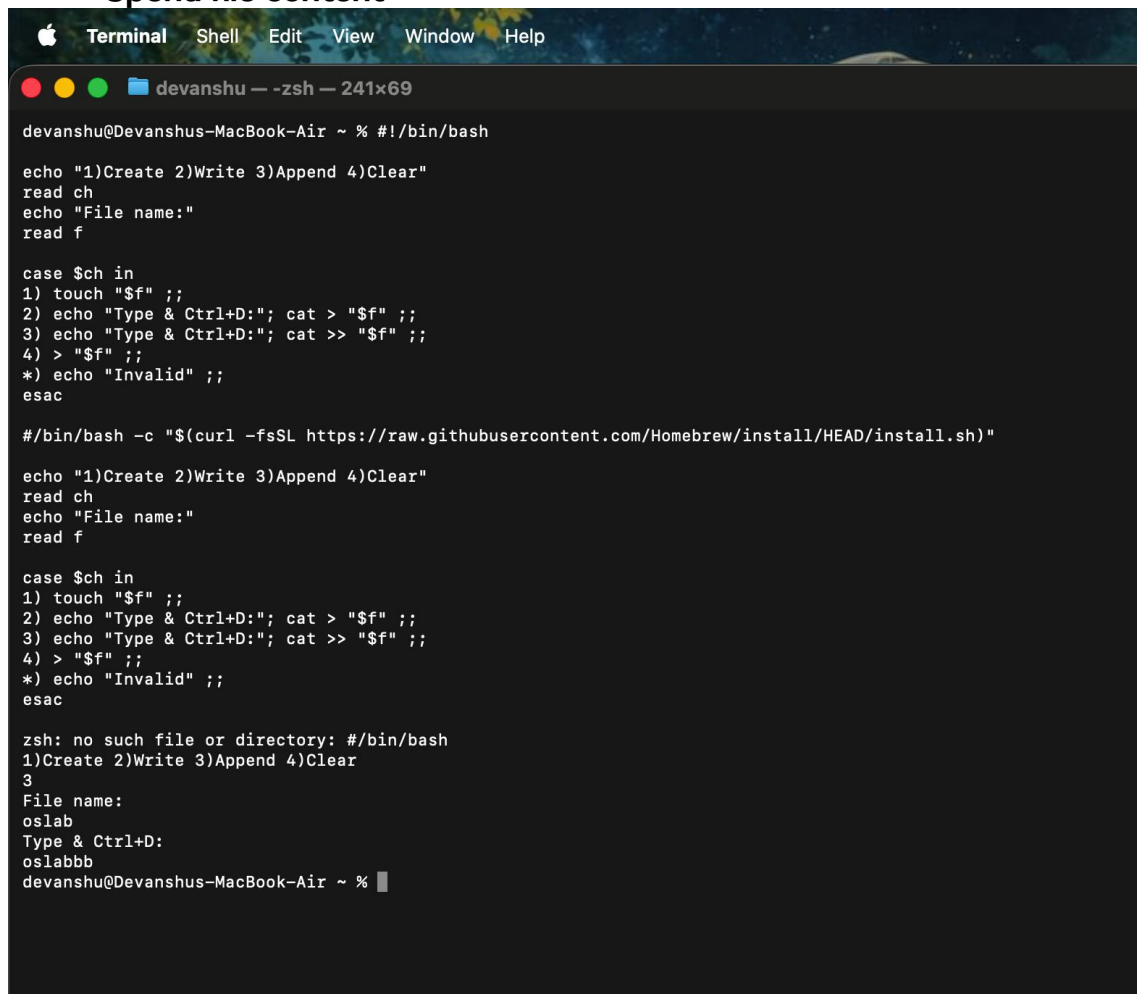
# /bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"

echo "1)Create 2)Write 3)Append 4)Clear"
read ch
echo "File name:"
read f

case $ch in
1) touch "$f" ;;
2) echo "Type & Ctrl+D:"; cat > "$f" ;;
3) echo "Type & Ctrl+D:"; cat >> "$f" ;;
4) > "$f" ;;
*) echo "Invalid" ;;
esac

zsh: no such file or directory: #/bin/bash
1)Create 2)Write 3)Append 4)Clear
2
File name:
os
Type & Ctrl+D:
os lab
devanshu@Devanshu-MacBook-Air ~ %
```

● Upend file content



```
devanshu@Devanshu-MacBook-Air ~ % #!/bin/bash

echo "1)Create 2)Write 3)Append 4)Clear"
read ch
echo "File name:"
read f

case $ch in
1) touch "$f" ;;
2) echo "Type & Ctrl+D:"; cat > "$f" ;;
3) echo "Type & Ctrl+D:"; cat >> "$f" ;;
4) > "$f" ;;
*) echo "Invalid" ;;
esac

# /bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"

echo "1)Create 2)Write 3)Append 4)Clear"
read ch
echo "File name:"
read f

case $ch in
1) touch "$f" ;;
2) echo "Type & Ctrl+D:"; cat > "$f" ;;
3) echo "Type & Ctrl+D:"; cat >> "$f" ;;
4) > "$f" ;;
*) echo "Invalid" ;;
esac

zsh: no such file or directory: #/bin/bash
1)Create 2)Write 3)Append 4)Clear
3
File name:
oslab
Type & Ctrl+D:
oslabbb
devanshu@Devanshu-MacBook-Air ~ %
```

● Delete file content

```
Terminal  Shell  Edit  View  Window  Help
devanshu — -zsh — 241x69

1)
touch "$fname"
echo "File created successfully"
;;
2)
echo "Enter content (Press Ctrl+D to save):"
cat > "$fname"
;;
3)
echo "Enter content to append (Press Ctrl+D to save):"
cat >> "$fname"
;;
4)
> "$fname"
echo "File content deleted"
;;
*)
echo "Invalid choice"
;;
esac

#/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
# Works on macOS Terminal

echo "1) Create File"
echo "2) Write Content to File"
echo "3) Append Content to File"
echo "4) Delete File Content"
echo "Enter your choice:"
read ch

echo "Enter file name:"
read fname

case $ch in
1)
touch "$fname"
echo "File created successfully"
;;
2)
echo "Enter content (Press Ctrl+D to save):"
cat > "$fname"
;;
3)
echo "Enter content to append (Press Ctrl+D to save):"
cat >> "$fname"
;;
4)
> "$fname"
echo "File content deleted"
;;
*)
echo "Invalid choice"
;;
esac

zsh: no such file or directory: #/bin/bash
zsh: command not found: #
1) Create File
2) Write Content to File
3) Append Content to File
4) Delete File Content
Enter your choice:
4
Enter file name:
oslab

File content deleted
devanshu@Devanshus-MacBook-Air ~ %
```