**PRACTICAL NO- 6 Shell Scripting – I**

**1] Write a shell program to execute the following:**

**i] Display calendar of current year.**

**ii] Display today's date.**

**iii] Display list of all users currently logged in.**

**iv] Display message "Hello World".**

**v] Perform some calculation.**

**Code:** vi 1

echo "Calendar of current month:"

cal

echo "Today's date:"

date

echo "Users currently logged in:"

who

echo "Hello World"

echo "Calculation of:"

bc

**Output:**

[tybscit@localhost Desktop]$ sh 1

Calendar of current month:

January 2016

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

Today's date:

Thu Jan 21 01:06:07 IST 2016

Users currently logged in:

tybscit tty1 2016-01-21 00:58 (:0)

tybscit pts/0 2016-01-21 00:58 (:0.0)

Hello World

Calculation of:

bc 1.06.95

25%5

0

**2] Write a shell program to execute the following commands:**

**i] Display present working directory**

**ii] Display today's date and time in 2 different lines.**

**iii] Display your terminal address.**

**iv] Display login name of user currently logged in.**

**v] Display all processes of the users.**

**vi] Display all files and directories in current working directory.**

**Code:** vi 2

echo "Present working directory is "

pwd

echo "Today's date is"

date +%D

echo "Today's time is "

date +%r

echo "Terminal address:"

tty

echo "Name of user currently logged in:"

who am i

echo "Process of the user"

ps

echo "Files and Directories in current working directory"

ls –l

**Output:**

[tybscit@localhost Desktop]$ sh 2

Present working directory is

/home/tybscit/Desktop

Today's date is

01/21/16

Today's time is

01:10:41 AM

Terminal address:

/dev/pts/0

Name of user currently logged in:

tybscit pts/0 2016-01-21 00:58 (:0.0)

Process of the user

PID TTY TIME CMD

2768 pts/0 00:00:00 bash

2981 pts/0 00:00:00 sh

2986 pts/0 00:00:00 ps

Files and Directories in current working directory

total 52

-rw-rw-r--. 1 tybscit tybscit 149 Jan 21 01:06 1

-rw-rw-r--. 1 tybscit tybscit 280 Jan 21 01:10 2

-rw-rw-r--. 1 tybscit tybscit 223 Jan 19 20:04 empdata~

-rw-rw-r--. 1 tybscit tybscit 109 Jan 19 18:55 od\_file~

-rw-rw-r--. 1 tybscit tybscit 11390 Jan 12 21:53 prac3~

-rw-rw-r--. 1 tybscit tybscit 8841 Jan 20 23:28 Pracs~

-rw-rw-r--. 1 tybscit tybscit 2678 Dec 10 19:59 pract1.1~

-rw-rw-r--. 1 tybscit tybscit 936 Jan 21 01:10 practical 4

-rw-rw-r--. 1 tybscit tybscit 649 Jan 21 01:07 practical 4~

**3] Write a shell script to initialize values in 2 variables and perform addition, subtraction,**

**multiplication, division, modulo and print the appropriate result.**

**Code:** vi 3

var1=10

var2=5

echo "Sum:`expr $var1 + $var2`"

echo "Difference:`expr $var1 - $var2`"

echo "Product:`expr $var1 \\* $var2`"

echo "Division:`expr $var1 / $var2`"

echo "Modulus:`expr $var1 % $var2`"

**Output:**

[tybscit@localhost Desktop]$ sh 3

Sum:15

Difference:5

Product:50

Division:2

Modulus:0

**4] Write a shell script to read values from the user and perform +, -,\*,/ and %.**

**(Read <variable name>)**

**Code:** vi 4

read a

read b

echo "Sum: `expr $a + $b`"

echo "Difference: `expr $a - $b`"

echo "Product: `expr $a \\* $b`"

echo "Division: `expr $a / $b`"

echo "Modulus: `expr $a % $b`"

**Output:**

[tybscit@localhost Desktop]$ sh 4

20

10

Sum: 30

Difference: 10

Product: 200

Division: 2

Modulus: 0

**5] Write a shell script to read input from the user and check whether it is greater than 10 or not.**

**Code:** vi 5

echo "Enter a number:"

read a

if [ $a -gt 10 ]

then

echo "$a is greater than 10"

else

echo "$a is less than 10"

fi

**Output:**

[tybscit@localhost Desktop]$ sh 5

Enter a number:

5

5 is less than 10

**6] Write a shell script to accept a number from the user and check whether it is even or odd.**

**Code:** vi 6

echo "Enter a number:"

read a

if [ `expr $a % 2` -eq 0 ]

then

echo "Even number."

else

echo "Odd number."

fi

**Output:**

[tybscit@localhost Desktop]$ sh 6

Enter a number:

6

Even number.

**7] Write a shell script to check whether the number is divisible by 3 or not.**

**Code:** vi 7

echo "Enter a number :"

read a

if [ `expr $a % 3` -eq 0 ]

then

echo "Divisible by 3."

else

echo "Not divisible by 3."

fi

**Output:**

[tybscit@localhost Desktop]$ sh 7

Enter a number :

7

Not divisible by 3.

**8] Write a shell script to read number from the user and check whether number is divisible by 3 or 7.**

**Code:** vi 8

echo "Enter a number :"

read a

if [ `expr $a % 3` -eq 0 ]

then

echo "Divisible by 3."

elif [ `expr $a % 7` -eq 0 ]

then

echo "Divisible by 7."

else

echo "Not divisible by 3 or 7."

fi

**Output:**

[tybscit@localhost Desktop]$ sh 8

Enter a number :

6

Divisible by 3.

[tybscit@localhost Desktop]$ sh 8

Enter a number :

7

Divisible by 7.

**9] Write a shell script to read number from the user and check whether it is divisible by 3 and 7 or only by 3 or only by 7 or not by both.**

**Code:** vi 9

echo "Enter a number :"

read a

if [ `expr $a % 3` -eq 0 ]

then

echo "Divisible by 3."

else

echo "Not divisible by 3."

fi

if [ `expr $a % 7` -eq 0 ]

then

echo "Divisible by 7."

else

echo "Not Divisible by 7."

fi

**Output:**

[tybscit@localhost Desktop]$ sh 9

Enter a number :

42

Divisible by 3 and 7.

Divisible by 7.

**10] Write a shell script to read 3 numbers from the user and find the largest using nested if else.**

**Code:** vi 10

echo "Enter 3 numbers :"

read a

read b

read c

if [ $a -gt $b ] and [ $a -gt $c ]

then

echo "$a is greater than $b and $c."

elif [ $b -gt $a ] and [ $b -gt $c ]

then

echo "$b is greater than $a and $c."

else

echo “$c is greater than $a and $b.”

fi

**Output:**

[tybscit@localhost Desktop]$ sh 10

Enter 2 numbers :

5

6

6 is greater than 5.

**11] Write a shell script to read marks of 5 subjects and find the total, percentage and grade of student.**

**Code:** vi 11

echo "Enter 5 subject marks :"

read m1

read m2

read m3

read m4

read m5

tot=`expr $m1+$m2+$m3+$m4+$m5|bc`

per=`expr $tot/5|bc`

echo "Total is $tot"

echo "Percentage is $per"

if [ $per -lt 35 ]

then

echo "Fail."

elif [ $per -ge 35 -a $per -lt 45 ]

then

echo "Third class."

elif [ $per -ge 45 -a $per -lt 60 ]

then

echo "Second class."

else

echo "First Class."

fi

**Output:**

[tybscit@localhost Desktop]$ sh 11

Enter 5 subject marks :

78

90

78

80

88

Total is 414

Percentage is 82

First Class.

**12] Write a shell script to check whether the year entered is leap or not.**

**Code:** vi 13

echo "Enter a year :"

read year

if [ `expr $year % 4` -eq 0 ]

then

echo "The entered year is leap year."

else

echo "The entered year is not a leap year."

fi

**Output:**

[tybscit@localhost Desktop]$ sh 13

Enter a year :

2012

The entered year is leap year.

**13] The basic salary of an employee is entered if the basic salary is less than or equal to 1500, hra=10%, da=90% of basic salary will be given to employee of the basic salary is greater than 1500 then hra=500 and da=90% will be given. Write a shell script to find gross salary.**

**Code:** vi 13

echo "Enter basic salary:"

read b

if [ $b -le 1500 ]

then

hra=`echo 0.10\\*$b|bc`

da=`echo 0.90\\*$b|bc`

gs=`echo $b+$hra+$da|bc`

echo "Gross Salary is $gs"

else

hra=500

da=`echo 0.98\\*$b|bc`

gs=`echo $b+$hra+$da|bc`

echo "Gross Salary is $gs"

fi

**Output:**

[tybscit@localhost Desktop]$ sh 13

Enter basic salary:

2000

Gross Salary is 4460.00

[tybscit@localhost Desktop]$ sh 13

Enter basic salary:

1000

Gross Salary is 2000.00

**14] Write a shell script tor pint month name corresponding to month number.**

**Code:** vi 14

echo "Enter the month number."

read m

case $m in

1) echo Jan;;

2) echo Feb;;

3) echo Mar;;

4) echo Apr;;

5) echo May;;

6) echo Jun;;

7) echo Jul;;

8) echo Aug;;

9) echo Sep;;

10) echo Oct;;

11) echo Nov;;

12) echo Dec;;

\*)echo "Please enter valid month number."

esac

**Output:**

[tybscit@localhost Desktop]$ sh 14

Enter the month number.

12

Dec

[tybscit@localhost Desktop]$ sh 14

Enter the month number.

13

Please enter valid month number.

**15] Write a shell script to print weekday name corresponding to week number.**

**Code:** vi 15

echo "Enter week number:"

read m

case $m in

1) echo Sun;;

2) echo Mon;;

3) echo Tue;;

4) echo Wed;;

5) echo Thur;;

6) echo Fri;;

7) echo Sat;;

\*) echo "Please enter valid week number."

esac

**Output:**

[tybscit@localhost Desktop]$ sh 15

Enter week number:

4

Wed

**16] Write a shell script to perform one of the following between 2 numbers : +, -, \*, /, %, exit.**

**Code:** vi 16

echo "Enter 1 for addition"

echo "Enter 2 for subtraction"

echo "Enter 3 for multiplication"

echo "Enter 4 for division"

echo "Enter 5 for modulus"

read ch

case $ch in

1)echo "Enter 2 numbers :"

read x

read y

add=`expr $x + $y`

echo "Addition :$add";;

2)echo "Enter 2 numbers :"

read x

read y

sub=`expr $x - $y`

echo "Subtraction :$sub";;

3)echo "Enter 2 numbers :"

read x

read y

mul=`expr $x \\* $y`

echo "Multiplication :$mul";;

4)echo "Enter 2 numbers :"

read x

read y

div=`expr $x / $y`

echo "Division :$div";;

5)echo "Enter 2 numbers :"

read x

read y

mod=`expr $x % $y`

echo "Modulus :$mod";;

6)exit;;

\*)echo "Please enter valid choice"

esac

**Output:**

[tybscit@localhost Desktop]$ sh 16

Enter 1 for addition

Enter 2 for subtraction

Enter 3 for multiplication

Enter 4 for division

Enter 5 for modulus

3

Enter 2 numbers :

1

2

Multiplication :2

**17] Write a shell script to read character from the user and check the type of character i.e. upper, lowercase, digit or a special symbol otherwise display appropriate message as 'You have entered more**

**than 1 character'.**

**Code:** vi 17

echo "Enter a character"

read ch

case $ch in

[A-Z])

echo "Uppercase";;

[a-z])

echo "Lowercase";;

[0-9])

echo "Numbers";;

?)

echo "Special character";;

\*)

echo "You have entered more than 1 character";;

esac

**Output:**

[tybscit@localhost Desktop]$ sh 17

Enter a character

@

Special character

**18] Write a shell script to enter color from the user and display user's favorite color.**

**Code:** vi 18

echo "Enter a color:"

read color

case $color in

[rR][eE][dD])echo "Your choice is RED color.";;

[bB][lL][uU][eE])echo "Your choice is BLUE color.";;

[pP][iI][nN][kK])echo "Your choice is PINK color";;

\*)

echo "Please enter valid color."

esac

**Output:**

[tybscit@localhost Desktop]$ sh 18

Enter a color:

red

Your choice is RED color.

**19] Write a shell script to read word from the user and check whether it is starting with the lowercase vowel letter or uppercase or ends with a digit or starts with digit or it is 3 letter word.**

**Code:** vi 19

echo "Enter word :"

read word

case $word in

[aeiou]\*)

echo "Your entered vowel is in lowercase.";;

[AEIOU]\*)

echo "Your entered vowel is in UPPERCASE.";;

[0-9]\*)

echo "Your entered word starting with a digit.";;

\*[0-9])

echo "Your entered word ending with a digit.";;

???)

echo "You entered a 3 letter word";;

esac

**Output:**

[tybscit@localhost Desktop]$ $ sh 19

Enter word :

xyz

You entered a 3 letter word

**20] Write a shell script to read a choice between A-E and do the following:**

**a] display today's date**

**b] display the calendar of the current year.**

**c] display list of all users currently logged in**

**d] perform some calculation**

**e] exit**

**Code:** vi 20

echo "Enter your choice"

echo "a) Enter A to display today's date."

echo "b) Enter B to display the calendar of current year. "

echo "c) Enter C to list all users currently logged in."

echo "d) Enter D to perform some calculations."

echo "e) Enter E to exit."

read ch

case $ch in

a)echo "Today's date"

date;;

b)echo "Current year calendar"

cal;;

c)echo "All users currently logged in"

who;;

d)echo "Calculation of"

bc;;

e)exit;;

esac

**Output:**

[tybscit@localhost Desktop]$ sh 20

Enter your choice :

Enter A to display today's date.

Enter B to display the calendar of current year.

Enter C to list all users currently logged in.

Enter D to perform some calculations.

Enter E to exit.

A

Today's date :

Sun Feb 14 03:22:08 IST 2016

**21] Write a shell script to read file name from user and find the type of the file whether it is .c or .out type file.**

**Code:** vi 21

echo "Enter a file name:"

read f

case $f in

\*.c)

echo "This is c type file.";;

\*.out)

echo "This is out type file.";;

\*)

echo "This is some other type.";;

esac

**Output:**

[tybscit@localhost Desktop]$ sh 21

Enter a file name:

demo

This is some other type.

**22] Write a shell script to read 2 strings and check whether the strings are identical. Print appropriate message.**

**Code:** vi 35

echo "Enter line 1: "

read m

echo "Enter line 2: "

read n

if [ $m == $n ]

then

echo "identical"

else

echo "different"

fi

**Output:**

[tybscit@localhost Desktop]$ sh 35

Enter line 1:

abc

Enter line 2:

abc

identical

**23] Write a shell script to read a string from command line argument and check whether its length is greater than or equal to 12. Print appropriate message.**

**Code:** vi 36

str=$1

len=${#str}

if [ $len -ge 12 ]

then

echo "$1 string length is greater than 12."

else

echo "$1 string length is less than 12."

fi

**Output:**

[tybscit@localhost Desktop]$ sh 36 rampatel

rampatel string length is less than 12.

**24] Write a shell script to read a file name from the user and check whether it exists or not. If exists then check it is non-empty or not, if non-empty display the contents of the file and print appropriate message.**

**Code:** vi 37

echo "Enter file name :"

read f

if [ -f$f ]

then

echo "$f file exists."

x=`ls $f|wc -l`

if [ $x -gt 0 ]

then

echo "$f file is not empty."

echo "The content of $f is"

cat $f

else

echo "$f is empty."

fi

else

echo "$f does not exists."

fi

**Output:**

[tybscit@localhost Desktop]$ sh 37

Enter file name :

30

30 file exists.

30 is empty.

**25] Write a shell script to read a filename and check if it exists readable or writable. If yes allow the** **user to append the content in the file and print appropriate message.**

**Code:** vi 38

echo "Enter file name :"

read f

if [ -f$f ]

then

echo "$f file exists."

echo "The contents of $f :"

cat $f

if [ -w $f ]

then

echo "$f has write permission."

echo "Now you can append."

cat>>$f

else

echo "$f doesn't have permission."

fi

else

echo "$f doesn't exists."

fi

**Output:**

[tybscit@localhost Desktop]$ sh 38

Enter file name :

31

31 file exists.

The contents of 31 :

31 doesn't have permission.

**26] Write a shell script to read file name from user and check whether the file name exists. If it is then read pattern from the user and check whether that pattern exists or not. If it is display lines containing this pattern otherwise display appropriate message.**

**Code:** vi 39

echo "Enter file name :"

read f

if [ -f$f ]

then

echo "$f file exists."

echo "Enter pattern :"

read pat

x=`grep -c $pat $f`

if [ $x -gt 0 ]

then

echo "Pattern found."

echo "Line containing $pat in $f are :"

grep "$pat" $f

else

echo "Pattern not found."

fi

else

echo "File does not exists."

fi

**Output:**

[tybscit@localhost Desktop]$ sh 39

Enter file name :

demo

demo file exists.

Enter pattern :

echo

Pattern found.

echo "Hello..:"

echo "Hello..:"

**27] Write a shell script which receives 2 file names as argument and it should check whether 2 files contents are same or not. If they are then 2nd file should be deleted.**

**Code:** vi 40

file1=$1

file2=$2

cmp $file1 $file2

if [ `echo $?` -eq 0 ]

then

echo "$file1 and $file2 are same"

echo "now deleting file2........."

rm $file2

echo "deletion successfully"

else

echo "2 files are not at all same"

fi

**Output:**

[tybscit@localhost Desktop]$ sh 40

prog36 prog40 differ: byte 1, line 1

2 files are not at all same

[tycs@localhost 36-57]$ sh prog41 q q1

q and q1 are same

now deleting file2.........

deletion successfully