1.

echo "enter two numbers"

read num1

read num2

sum=$((num1+num2))

diff=$((num1-num2))

product=$((num1\*num2))

quotient=$((num1/num2))

echo "sum: $sum"

echo "diff: $diff"

echo "product: $product"

echo "quotient: $quotient"

echo "enter two strings"

read string1

read string2

concatenate\_string="$string1$string2"

echo "concatenate\_string: $concatenate\_string"

2.

echo "enter year"

read year

if [ $((year % 4)) -eq 0 ] && [ $((year % 100)) -ne 0 ] || [ $((year % 400)) -eq 0 ]; then

echo "$year is leap year"

else

echo "$year is not leapyear"

fi

3.

echo "enter file\_path"

read file\_path

if [ -d "$file\_path" ]; then

echo "file is a directory"

else

echo "file is not a directory"

fi

4.

"enter in lowercase"

read inputstring

uppercase\_string=$(echo "$inputstring1" | tr '[:lower:]' '[:upper:]')

echo "uppercase version:$uppercase\_string"

5.

echo "enter 1st num"

read n1

echo "enter 2nd num"

read n2

m=$n1

n=$n2

r=$n2

while [ $r - ne 0 ]; do

r=$((n1%n2))

if [ $r -eq 0 ]; then

break

else

((n1=$n2))

((n2=$r))

fi

done

echo "gcd of %d and %d is %d/n" $m $n $n

echo "lcm of %d and %d is %d/n" $m $n $((($m\*$n)/$n2))

6.

echo "enter num"

read num

reverse=$(echo $num | rev)

if [ $num -eq $reverse ]; then

echo "$num is palindrome"

else

echo "$num is not palindrome"

fi

7.

echo "enter a num"

read num

is\_prime=true

if [ $num -lt 2 ]; then

is\_prime=false

fi

for((i=2;i\*i<=num;i++)); do

if [ $((num % i)) -eq 0 ]; then

is\_prime=false

break

fi

done

if $is\_prime; then

echo "$num is a prime number"

else

echo "$num is not a prime number"

fi

8.

echo "enter a pattern"

read pattern

echo "enter a file to search"

read filename

if grep -q "$pattern" "$filename"; then

echo "pattern found in file"

else

echo "patten not found in file"

fi

9.

echo "enter username"

read username

echo "enter password"

read password

valid\_username="user"

valid\_password="password"

if [ "$username" == "$valid\_username" ] && [ "$password" == "$valid\_password" ]; then

echo "login success"

else

echo "login unsuccess"

fi

10.

if [ $# -eq 0 ];then

echo "no arguments"

exit 1

fi

for ((i=$#;i>0;i--)); do

echo "${!i}"

done