## 1. Program to check if number is multiple of 5 or not

echo "Please enter a number"

read n

if [ $(( $n%5 )) -eq 0 ]

then

echo "$n is multiple of 5"

else

echo "$n is not a multiple of 5"

fi

[Run the above Script](https://replit.com/@mratunjya/ShellMultipleof5)

## 2. Program to count number of digits in an integer

echo "Enter a number to count number of digits"

read n

a=$n

count=0

while [ $n -gt 0 ]

do

count=$(( $count+1 ))

n=$(( $n/10 ))

done

echo "Number of digits in $a is $count"

[Run the above Script](https://replit.com/@mratunjya/CountNumberofDigits)

## 3. Program to check whether the number is negative or positive

echo "Enter a number"

read n

if [ $n -gt 0 ]

then

echo "$n is positive"

elif [ $n -lt 0 ]

then

echo "$n is negative"

else

echo "$n is neither positive nor negative"

fi

[Run the above Script](https://replit.com/@mratunjya/NumberNegativeorPositive)

## 4. Program to find the greater of two numbers

echo "Enter two numbers to find the greater one"

read a b

if [ $a -gt $b ]

then

echo "$a is greater than $b"

elif [ $b -gt $a ]

then

echo "$b is greater than $a"

else

echo "$a is equal to $b"

fi

## 5. Program to print 10 multiples of 3

for ((i=1;i<=10;i++))

do

tmp=$(( $i\*3 ))

echo -e "3\*$i=$tmp"

done

## 6. Program to find power of number

echo "Enter the base and power values"

read b p

a=$p

ans=1

while [ $p -gt 0 ]

do

ans=$(( $ans\*$b ))

p=$(( $p-1 ))

done

echo "Value of $b to the power $a=$ans"

## 7. Program to print first even no. in the list

echo "Enter a list of numbers"

read a

br=0

for n in $a

do

if [ $(( $n%2 )) -eq 0 ]

then

echo "First even no. of the list is $n"

br=1

break

fi

done

if [ $br -eq 0 ]

then

echo "There are no even numbers in the list"

fi

## 8. Program to check if the character is vowel or not

### Approach 1:

echo "Enter a character"

read a

if [[ $a == [AEIOUaeiou] ]]

then

echo "$a is a vowel"

else

echo "$a is not a vowel"

fi

### Approach2:

#!/bin/sh

echo "Enter any character: "

read ch

case $ch in

"a") echo "It is a vowel.";;

"e") echo "It is a vowel.";;

"i") echo "It is a vowel.";;

"o") echo "It is a vowel.";;

"u") echo "It is a vowel.";;

"A") echo "It is a vowel.";;

"E") echo "It is a vowel.";;

"I") echo "It is a vowel.";;

"O") echo "It is a vowel.";;

"U") echo "It is a vowel.";;

\*) echo "It is not a vowel."

esac

## 9. Program to print second vowel of the String

echo "Enter a string"

read str

l=${#str}

count=0

for ((i=0;i<l;i++))

do

c=${str:i:1}

if [[ $c == [AEIOUaeiou] ]]

then

if [ $count -eq 1 ]

then

echo "Second vowel of the given string is $c"

count=2

break

else

count=1

fi

fi

done

if [ $count -eq 0 ]

then

echo "No Vowels found"

elif [ $count -eq 1 ]

then

echo "Only one vowel found"

fi

## 10. Program to print sum of digits of a number

echo "Enter a number"

read n

a=$n

sum=0;

while [ $n -gt 0 ]

do

r=$(( $n%10 ))

sum=$(( $sum+$r ))

n=$(( $n/10 ))

done

echo "Sum of digits of $a=$sum"

## 11. Program to print sum of digits of a number

echo "Enter a number"

read n

a=$n

sum=0;

while [ $n -gt 0 ]

do

r=$(( $n%10 ))

sum=$(( $sum+$r ))

n=$(( $n/10 ))

done

echo "Sum of digits of $a=$sum"

## 12. Program to print all vowels of the string

echo "Enter a string"

read str

l=${#str}

count=0

for ((i=0;i<l;i++))

do

c=${str:i:1}

if [[ $c == [AEIOUaeiou] ]]

then

echo "$c"

count=$(( $count+1 ))

fi

done

if [ $count -eq 0 ]

then

echo "No vowels found"

else

echo "Total no. of vowels found=$count"

fi

## 13. Program to print second even no. in the list

echo "Enter the numbers in the list"

read list

count=0

for n in $list

do

if [ $(( $n%2 )) -eq 0 ]

then

if [ $count -eq 1 ]

then

echo "Second even no. of the list is $n"

count=2

break

fi

count=1

fi

done

if [ $count -eq 1 ]

then

echo "Only one even number found in the list"

elif [ $count -eq 0 ]

then

echo "No even numbers found in the list"

fi

## 14. Program to calculate simple interest

echo "Input Principal, Rate and Time"

read p r t

si=$(( ($p\*$r\*$t)/100 ))

echo "Simple Interest=$si"

## 15. Program to check for palindrome

echo "Please input a no. to check for palindrome"

read a

n=$a

rev=0

while [ $n -gt 0 ]

do

r=$(( $n%10 ))

rev=$(( $rev\*10+$r ))

n=$(( $n/10 ))

done

if [ $a -eq $rev ]

then

echo "$a is a Palindrome number"

else

echo "$a is not a Palindrome number"

fi

## 16. Program check if number is multiple of 9 or not

echo "Please enter a number"

read n

if [ $(( $n%9 )) -eq 0 ]

then

echo "$n is multiple of 9"

else

echo "$n is not a multiple of 9"

fi

## 17. Program to calculate compound interest

echo "Enter Principal, Rate and Time"

read p r t

ci=`echo "scale=2; $p\*((1+($r/100))^$t)-$p" | bc`

echo "Compound Interest=$ci"

## 18. Program to print fibonacci series upto n terms

echo "Enter the value of n"

read n

a=-1

b=1

while [ $n -gt 0 ]

do

c=$(( $a+$b ))

echo "$c "

a=$b

b=$c

n=$(( $n-1 ))

done

## 19. Program to print first two odd digits of a number

echo "Input a number"

read n

a=$n

c=0

d=0

while [ $a -gt 0 ]

do

r=$(( $a%10 ))

if [ $(( $r%2 )) -eq 1 ]

then

c=$d

d=$r

fi

a=$(( $a/10 ))

done

if [ $d -gt 0 ] && [ $c -gt 0 ]

then

echo "$d $c"

elif [ $d -gt 0 ]

then

echo "Only one odd digit"

else

echo "No odd digits"

fi

## 20. Program to print factorial of the given number

echo "Enter a number"

read n

a=$n

f=1

while [ $a -gt 0 ]

do

f=$(( $f\*$a ))

a=$(( $a-1 ))

done

echo "Factorial of $n=$f"

## 21. Program to reverse a string

echo "Enter a string"

read str

rev=""

l=${#str}

for ((i=l-1;i>=0;i--))

do

c="${str:i:1}"

rev+=$c

done

echo "Reverse of $str is $rev"

## 22. Program to print the reverse of a number

echo "Enter a number"

read n

a=$n

rev=0

while [ $a -gt 0 ]

do

r=$(( $a%10 ))

rev=$(( $rev\*10+r ))

a=$(( $a/10 ))

done

echo "Reverse of $n is $rev"

## 23. Program to print second last even digit of any number

echo "Enter a number"

read num

a=$num

count=0

while [ $a -gt 0 ]

do

c=$(( $a%10 ))

if [ $(( $c%2 )) -eq 0 ]

then

count=$(( count+1 ))

if [ $count -eq 2 ]

then

echo "Second last even digit of $num=$c"

break

fi

fi

a=$(( $a/10 ))

done

if [ $count -eq 0 ]

then

echo "No even digits found"

elif [ $count -eq 1 ]

then

echo "Only one even digit found"

fi

## 24. Program to find the quadrant of (x,y)

echo "Enter the values for x and y"

read x y

if [ $x -gt 0 ]

then

if [ $y -gt 0 ]

then

echo "Quadrant I"

elif [ $y -lt 0 ]

then

echo "Quadrant IV"

fi

elif [ $x -lt 0 ]

then

if [ $y -gt 0 ]

then

echo "Quadrant II"

elif [ $y -lt 0 ]

then

echo "Quadrant III"

fi

fi

## 25. Guess if the user entered an odd number

echo "Enter an odd number"

ans=0

for ((i=1;i<=3;i++))

do

echo "Chance $i"

read n

if [ $(( n%2 )) -eq 1 ]

then

ans=1

echo "Congratulations odd number found $n"

break

else

echo “Try again"

fi

done

if [ $ans -eq 0 ]

then

echo "All chances exhausted"

fi

## 26. Sum of odd alternate numbers upto n terms

echo "Enter the value of n"

read n

c=1

sum=0

for ((i=1;i<=n;i++))

do

sum=$(( sum+c ))

c=$(( c+4 ))

done

echo "Sum of alternate odd numbers upto n = $sum"

## 27. Sum of odd alternate numbers in the range a and b

echo "Enter the range"

read a b

sum=0

if [ $(( a%2 )) -eq 0 ]

then

a=$(( a+1 ))

fi

for ((i=a;i<=b;i+=4))

do

sum=$(( sum+i ))

done

echo "Sum of alternate odd numbers in the given range = $sum"

## 28. Program to print even digits at odd indexes

echo "Enter a number"

read n

rev=0

while [ $n -gt 0 ]

do

r=$(( n%10 ))

rev=$(( rev\*10+r ))

n=$(( n/10 ))

done

while [ $rev -gt 0 ]

do

r=$(( rev%10 ))

if [ $(( r%2 )) -eq 0 ]

then

echo "$r"

fi

rev=$(( rev/100 ))

done

## 29. Program to print the next leap year

echo "Enter year"

read n

r=$(( n%4 ))

r=$(( 4-r ))

n=$(( n+r ))

if [ $(( n%100 )) -eq 0 ] && [ $(( n%400 )) -ne 0 ]

then

n=$(( n+4 ))

fi

echo "Next leap year is $n"

## 30. Program to check if the input is a multiple of 3 and 5

echo "Enter a number"

read n

if [ $(( n%3 )) -eq 0 ] && [ $(( n%5 )) -eq 0 ]

then

echo "$n is a multiple of 3 and 5"

else

echo "$n is not a multiple of 3 or 5"

fi

## 31. Program to print vowels of the string at odd indexes

echo "Enter a string"

read str

l=${#str}

for ((i=0;i<l;i+=2))

do

c=${str:i:1}

if [[ $c == [AEIOUaeiou] ]]

then

echo $c

fi

done

## 32. Program to check if the input year is leap year or not

echo "Enter the year"

read y

if [ $(( y%4 )) -eq 0 -a $(( y%100 )) -ne 0 -o $(( y%400 )) -eq 0 ]

then

echo "$y is a leap year"

else

echo "$y is not a leap year"

fi

## 33. Program to print Kth digit of an integer

echo "Enter a number and value of k"

read n k

rev=0

while [ $n -gt 0 ]

do

r=$(( n%10 ))

rev=$(( rev\*10+r ))

n=$(( n/10 ))

done

while [ $k -gt 0 ]

do

r=$(( rev%10 ))

rev=$(( rev/10 ))

k=$(( k-1 ))

done

echo "$r"

## 34. Program to print characters of a string

echo "Enter a string"

read str

l=${#str}

for ((i=0;i<l;i++))

do

c=${str:i:1}

echo $c

done

## 35. Take input a character command line and print only vowels

read a

for i in $a

do

if [[ $i == [AEIOUaeiou] ]]

then

echo $i

fi

done

## 36. Print Prime numbers in a range

echo "Enter the range to print prime numbers"

read start end

count=0

if [ $start -le 2 ]

then

echo “2”

start=3

fi

for ((i=start;i<=end;i++))

do

prime=1

for ((j=2;j<i;j++))

do

if [ $(( i%j )) -eq 0 ]

then

prime=0

break

fi

done

if [ $prime -eq 1 ]

then

echo $i

count=$(( count+1 ))

fi

done

echo "Total prime numbers in the given range=$count"

## 37. Program to count numbers possible with the digits of a given integer. Also print possible integers with unique digits

echo "Enter any number : "

read m

#finding factorial of number of digits

fact\_m=1

c\_m=${#m}

while [ $c\_m -gt 1 ]

do

fact\_m=$((fact\_m\*c\_m))

((c\_m--))

done

#finding uniques in given digits

n=${m:0:1}

for (( i=1;i<${#m};i++ ))

do

for (( j=0;j<${#n};j++ ))

do

if [ ${n:$j:1} == ${m:$i:1} ]

then

break

elif [ $j == $((${#n}-1)) ]

then

n+=${m:$i:1}

fi

done

done

#finding factorial of repeated numbers

fact\_n=1

for (( i=0;i<${#n};i++ ))

do

cnt=0

for (( j=0;j<${#m};j++ ))

do

if [ ${m:$j:1} == ${n:$i:1} ]

then

((cnt++))

fi

done

while [ $cnt -gt 1 ]

do

fact\_n=$((fact\_n\*cnt))

((cnt--))

done

done

echo "Number of possible numbers with digits of given number : $((fact\_m/fact\_n))"

#finding all permutation of unique digits

s=(${n:0:1})

for (( i=1;i<${#n};i++ ))

do

l=0

for (( j=0;j<${#s[@]};j++ ))

do

for (( k=0;k<=${#s[j]};k++ ))

do

t[$l]=${s[$j]:0:$k}${n:$i:1}${s[$j]:$k}

((l++))

done

done

s=("${t[@]}")

done

echo "All Possible numbers with unique digits of given number : "

for i in ${t[@]}

do

echo $i

done

## 38. Program to count palindromes in a list of command line arguments. (eg. MADAM):

c=0

for str in $@

do

str=${str,,}

l=${#str}

s=""

for ((i=l-1;i>=0;i--))

do

s+=${str:i:1}

done

if [ $s == $str ]

then

(( c++ ))

fi

done

echo "Number of palindromes=$c"

**Note:** Syntax to give input through command line:

./filename.sh input1 input2 input3

## 39.