

## 1. Sum of Numbers

A script to calculate the sum of numbers from 1 to a user-specified number.

```
#!/bin/  
# Sum of Numbers Script  
  
echo "Enter a number:"  
read num  
sum=0  
  
for ((i=1; i<=num; i++))  
do  
    sum=$((sum + i))  
done  
  
echo "The sum of numbers from 1 to $num is: $sum"
```

## 2. Factorial of a Number

This script calculates the factorial of a number.

```
#!/bin/  
# Factorial Script  
  
echo "Enter a number:"  
read num  
fact=1  
  
for ((i=1; i<=num; i++))  
do  
    fact=$((fact * i))  
done  
  
echo "Factorial of $num is: $fact"
```

## 3. Fibonacci Sequence

A script to display the Fibonacci sequence up to a given number of terms.

```
#!/bin/  
# Fibonacci Sequence Script
```

```

echo "Enter the number of terms:"
read n

a=0
b=1

echo "Fibonacci series up to $n terms:"
for ((i=0; i<n; i++))
do
    echo -n "$a "
    fn=$((a + b))
    a=$b
    b=$fn
done
echo

```

## 4. Check if a Number is Prime

A script to check if a given number is prime.

```

#!/bin/
# Prime Number Check Script

echo "Enter a number:"
read num

is_prime=1

for ((i=2; i<=num/2; i++))
do
    if ((num % i == 0))
    then
        is_prime=0
        break
    fi
done

if ((is_prime == 1))
then
    echo "$num is a prime number."
else
    echo "$num is not a prime number."
fi

```

## 5. Reverse a String

A script to reverse a string input by the user.

```

#!/bin/

```

```
# Reverse a String Script

echo "Enter a string:"
read str

len=${#str}
rev=""

for ((i=$len-1; i>=0; i--))
do
    rev="$rev${str:$i:1}"
done

echo "Reversed string: $rev"
```

## 6. Number Guessing Game

A simple guessing game where the user has to guess a random number.

```
#!/bin/
# Number Guessing Game Script

target=$(( RANDOM % 100 + 1 ))
guess=0

echo "Guess the number (between 1 and 100):"

while [ $guess -ne $target ]
do
    read guess
    if [ $guess -lt $target ]; then
        echo "Too low!"
    elif [ $guess -gt $target ]; then
        echo "Too high!"
    else
        echo "Congratulations! You've guessed the right number!"
    fi
done
```

## 7. Find Maximum of Three Numbers

A script that finds the maximum of three numbers entered by the user.

```
#!/bin/
# Find Maximum of Three Numbers Script

echo "Enter three numbers:"
read a
read b
read c
```

```
if [ $a -ge $b ] && [ $a -ge $c ]; then
    max=$a
elif [ $b -ge $a ] && [ $b -ge $c ]; then
    max=$b
else
    max=$c
fi

echo "The maximum number is: $max"
```