

Aim : Write an Algorithm a Simple Calculation

Algorithm :

Step-1 : Start

Step-2 : Declare variables num1, num2, result, Operator, Choice.

Step-3 : Write "Select Operator".

Step-3.1 : Write "1. Add "

Step-3.2 : Write "2. Subtract "

Step-3.3 : Write "3. Multiply"

Step-3.4 : Write "4. divide "

Step-4 : Write "Enter a choice [1/2/3/4]".

Step-4.1 : Read Choice.

Step-5 : Write Enter a First numbers

Step-5.1 : Read num1

Step-6 : Write Enter a Second number

Step-6.1 : Read num2

Step-7 : Call Operator by using Switch-function

Step-7.1 : Operator = Switch (choice : "+", "-", "\*", "/")

Step-8 : Call Add-function (x+y)



Step-9: Call Subtract ( $x-y$ )

Step-10: Call Multiply ( $x*y$ )

Step-11: Call Divide ( $x/y$ )

Step-12: Print result

Step-13: Stop



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**Aim :** Write a R Program to find the Sum of natural numbers.

**Algorithm:-**

Step-1: Start

Step-2: Declare variables num, Sum

Step-3: Read values num

Step-4: Assign the result to Sum, num

$Sum = Sum + num$

$num = num - 1$

Step-5: Display Sum

Step-6: Stop.



Aim :- Write a R Program to find HCF.

### Algorithm :-

Step-1 : Start

Step-2 : Declare num 1, num 2

Step-3 : Write "Enter First number".

Step-4 : Read num 1

Step-5 : Write "Enter Second number"

Step-6 : Read num 2

Step-7 : Call HCF ( )

Step-7.1 : if ( $x > y$ )

Step-7.1.1 : Smaller = y

else

Step-7.2 : Smaller = x

Step-7.3 : For i = 1 to Smaller

Step-7.3.1 : if ( $x \% i == 0$ ) && ( $y \% i == 0$ )

Step-7.3.2 : hcf = i

Step-8 : Return hcf

Step-9 : Print the hcf

Step-10 : End.



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**Aim:-** Write a R program To find the factors of a number

**Algorithm:-**

Step-1 : Start

Step-2 : Declare Variables ,  $x, i$

Step-3 : Initialize Variables

$\text{factor} \leftarrow 1$

$i \leftarrow 1$

Step-4 : Read Value of  $x$

Step-5 : Repeat the steps until  $1 : x$

Step-6 : Display factor

Step-7 : Stop.



Aim:- Write a R Program to Print the Fibonacci Sequence.

Algorithm:-

Step-1 : Start

Step-2 : Declare variables  $n_1, n_2, \dots, n$  terms, Count.

Step-3 : Read the  $n$  terms values.

Step-4 : if ( $n$  terms  $\leq 0$ )

Step-4.1: Write "Enter positive integer".

Step-5: else

Step-5.1: if ( $n$  terms  $= 1$ )

Step-5.1.1: Write "Fibonacci Sequence".

Step-5.1.2: Display  $n_1, n_2$

Step-6 : While Count  $< n$  terms

Step-6.1:  $n^{th} = n_1 + n_2$ ;

Step-7: Display  $n^{th}$

Step-8:  $n_1 = n_2$

Step-9: end loop

Step-10: Stop.



**Aim :-** Write a R Program to take i/p from user.

**Algorithm :-**

Step-1 : Start

Step-2 : Declare variable name , age

Step-3 : Read name , age .

Step-4 : Display name , age

Step-5 : Stop.



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Aim :- Write a R Program to find minimum and maximum.

Algorithm :-

Step-1 : Start

Step-2 : Declare variables  $x, y$

Step-3 : Read values  $x$  and  $y$

Step-4 :  $x$  and  $y$  and assign the result to minimum  
or maximum.

Step-5 : Display minimum or maximum.

Step-6 : Stop.



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**Aim:-** Write a R Program to check for leap year.

**Algorithm:-**

Step-1: Start

Step-2: Declare year

Step-3: Write Enter a year

Step-4: Read year

Step-5: if (year % 4 == 0)

Step-5.1: if (year % 100 == 0)

Step-5.2: if (year % 400 == 0)

Step-6: Display Leap year

Step-7: else

Step-8: Display not Leap year

Step-9: Display Leap year.

else

not Leap year



Step-10 : else

Display Not Leap Year

Step-11 : Stop.



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Aim:- Write an Algorithm to check whether a number enter by user is Prime or not.

### Algorithm:-

Step-1 : Start

Step-2 : Declare Variables  $n, i, \text{flag}$

Step-3 : initialize variables

flag = 1

$i \rightarrow 2$

Step-4 : Read  $n$  from user

Step-5 : Repeat the steps until  $i < (n/2)$

Step-5.1 : if remainder of  $n \div i$  equals 0

flag = 0

go to step 6

Step-5.2 :  $i \leftarrow i + 1$

Step-6 : if flag = 0

Display  $n$  is not prime

else

Display  $n$  is prime.

Step-7 : Stop.



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**Aim :-** Write a R Program to check a number is Armstrong or not.

**Algorithm :-**

Step-1 : Start

Step-2 : Declare variables Sum, temp, num

Step-3 : Initialize variables digit

digit = temp

Step-4 : Read number from user

Step-5 : The Steps is temp > 0

Step-5.1 : If remainder of Sum = num

Display is Armstrong

else

Display is not Armstrong

Step-6 : Stop.



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Aim:- Write a R program to Sort A vector.

Algorithm:-

Step -1 : Start

Step -2 : Declare Variable x

Step -3 : Read the values

Step -4 : Display the result

Step -5 : Stop.



**Aim:-** Write a R Program to creating the Data for Bar Chart.

**Algorithm:-**

Step-1 : Start

Step-2 : Declare Variable H, M

Step-3 : Read Value H, M

Step-4 : Condition file = ("bar-Properties . Png")

Step-5 : Display the Chart

Step-6 : Stop.



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Aim :- Write a R Program to creating A Simple of 100 numbers which are incremented by 1.5

Algorithm:-

Step-1 : Start

Step-2 : Declare Variables  $x, y$

Step-3 : Read the value  $x, y$

Step-4 : file = "dbinom.png"

Step-4.1: plot  $(x, y)$

Step-5 : Display the Barchart

Step-6 : Stop.



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**Aim :-** Write a R Program to creating Input vector for `lm()`.

**Algorithm :-**

Step-1 : Start

Step-2 : Declare Variable  $x, y$

Step-3 : Read values  $x, y$

Step-4 : Method Apply

$$\text{Model} = \text{lm}(y \sim x)$$

Step-5 : Display result.

Step-6 : Stop.



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Aim :- Write a R Program to find the frequency of a digit in the number.

Algorithm:-

Step-1 : Start

Step-2 : Declare variable n, num, digit.

Step-3 : Read the value digit num.

Step-4 : Assign the result

$\text{num} > 0$

$\text{num} \% 10 == \text{digit}$

Step-5 : Display result digit

Step-6 : Stop.