1. Write a program to reverse a word using loop?

Sample Input:

String: TEMPLE

Sample Output:

Reverse String: ELPMET

Test cases:

1. SIGN UP
2. AT-LEAST
3. 1245
4. !@#$%
5. 145\*999=144855
6. Write a Program to Convert a Given Number of Days in Terms of Years, Weeks & Days.

Sample Input & Output::

Enter the number of days:756

No. of years:2

No. of weeks:3

No. of days:5

Test cases:

1. 38
2. 3.6
3. 0
4. -365
5. -45

3. Write a program to count all the prime and composite numbers entered by the user.

Sample Input:

Enter the numbers

4

54

29

71

7

59

98

23

Sample Output:

Composite number:3

Prime number:5

Test cases:

1. 33, 41, 52, 61,73,90
2. TEN, FIFTY, SIXTY-ONE, SEVENTY-SEVEN, NINE
3. 45, 87, 09, 5.0 ,2.3, 0.4
4. -54, -76, -97, -23, -33, -98
5. 45, 73, 00, 50, 67, 44

4 Write a program to check the entered user name is valid or not. Get both the inputs from the user.

Sample Input:

Enter the user name: Saveetha@789

Reenter the user name: Saveetha@123

Sample Output:

User name is Invalid

1. Find the Mth maximum number and Nth minimum number in an array and then find the sum of it and difference of it.

Sample Input:

Array of elements = {14, 16, 87, 36, 25, 89, 34}

M = 1

N = 3

Sample Output:

1stMaximum Number = 89

3rdMinimum Number = 25

Sum = 114

Difference = 64

Test cases:

1. {16, 16, 16 16, 16}, M = 0, N = 1
2. {0, 0, 0, 0}, M = 1, N = 2
3. {-12, -78, -35, -42, -85}, M = 3 , N = 3
4. {15, 19, 34, 56, 12}, M = 6 , N = 3
5. {85, 45, 65, 75, 95}, M = 5 , N = 7
6. Write a program to reverse a number using loop?(Get the input from user)

Sample Input:

Number: 14567

Sample Output:

Reverse Number: 76541

Test cases:

1. -45721
2. 000
3. AD1947
4. !@#$%
5. 145\*999=144855
6. Write a program to find whether the person is eligible for vote or not. And if that particular person is not eligible, then print how many years are left to be eligible.

Sample Input:

Enter your age:

7

Sample output:

You are allowed to vote after 11 years

Test cases:

1. 25
2. Eighteen
3. 12
4. -18
5. 34.5
6. Write a program to print the total amount available in the ATM machine with the conditions applied.

Total denominations are 2000, 500, 200, 100, get the denomination priority from the user and the total number of notes from the user to display the total available balance to the user

Sample Input:

Enter the 1st Denomination: 500

Enter the 1st Denomination number of notes: 4

Enter the 2nd Denomination: 100

Enter the 2nd Denomination number of notes: 20

Enter the 3rd Denomination: 200

Enter the 3rd Denomination number of notes: 32

Enter the 4th Denomination: 2000

Enter the 4th Denomination number of notes: 1

Sample Output:

Total Available Balance in ATM: 12400

Test Cases:

3 Hidden Test cases (Think Accordingly based on Denominations)

1. Write a program using choice to check

Case 1: Given string is palindrome or not

Case 2: Given number is palindrome or not

Sample Input:

Case = 1

String = MADAM

Sample Output:

Palindrome

Test cases:

1. MONEY
2. 5678765
3. MALAY12321ALAM
4. MALAYALAM
5. 1234.4321
6. Find the LCM and GCD of n numbers?

Sample Input:

N value = 2

Number 1 = 16

Number 2 = 20

Sample Output:

LCM = 80

GCD = 4

Test cases:

1. N = 3, {12, 25, 30}
2. N = 2, {52, 25, 63}
3. N = 3, {17, 19, 11}
4. N = -2, {52, 60}
5. N = 2, {30, 45}
6. Write a program to print Right Triangle Star Pattern

Sample Input:: n = 5

Output:

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \* \* \*

1. Write a program to find the number of student users in the college, get the total users, staff users details from the client. Note for every 3 staff user there is one Non teaching staff user assigned by default.

Sample Input:

Total Users: 856

Staff Users: 126

Sample Output:

Student Users: 688

Test Cases:

1. Total User: 0
2. Total User: -143
3. Total User: 1026, Staff User: 1026
4. Total User: 450, Staff User: 540
5. Total User: 600, Staff User: 450
6. Write a program to convert Decimal number equivalent to Binary number and octal numbers?

Sample Input:

Decimal Number: 15

Sample Output:

Binary Number = 1111

Octal = 17

Test cases:

1. 111
2. 15.2
3. 0
4. B12
5. 1A.2
6. Write a program to print the below pattern?

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | 1 |  |  |  |  |
|  |  |  | 1 |  | 1 |  |  |  |
|  |  | 1 |  | 2 |  | 1 |  |  |
|  | 1 |  | 3 |  | 3 |  | 1 |  |
| 1 |  | 4 |  | 6 |  | 4 |  | 1 |

1. In an organization they decide to give bonus to all the employees on New Year. A 5% bonus on salary is given to the grade A workers and 10% bonus on salary to the grade B workers. Write a program to enter the salary and grade of the employee. If the salary of the employee is less than $10,000 then the employee gets an extra 2% bonus on salary Calculate the bonus that has to be given to the employee and print the salary that the employee will get.

Sample Input & Output:

Enter the grade of the employee: B

Enter the employee salary: 50000

Salary=50000

Bonus=5000.0

Total to be paid:55000.0

Test cases:

1. Enter the grade of the employee: A

Enter the employee salary: 8000

1. Enter the grade of the employee: C

Enter the employee salary: 60000

1. Enter the grade of the employee: B

Enter the employee salary: 0

1. Enter the grade of the employee: 38000

Enter the employee salary: A

1. Enter the grade of the employee: B

Enter the employee salary: -8000

1. Write a program to print the first n perfect numbers. (Hint Perfect number means **a positive integer that is equal to the sum of its proper divisors)**

Sample Input:

N = 3

Sample Output:

First 3 perfect numbers are: 6 , 28 , 496

Test Cases:

1. N = 0
2. N = 5
3. N = -2
4. N = -5
5. N = 0.2
6. A Pythagorean triplet is a set of three integers a, b and c such that a2+ b2= c2. Given a limit, generate all Pythagorean Triples with values smaller than given limit?
7. Write a program using function to calculate the simple interest. Suppose the customer is a senior citizen. He is being offered 12 percent rate of interest; for all other customers, the ROI is 10 percent.

Sample Input:

Enter the principal amount: 200000

Enter the no of years: 3

Is customer senior citizen (y/n): n

Sample Output:

Interest: 60000

Test Cases:

1. Principal: 2000 , Years: 0
2. Principal: 20000 , Years: -2
3. Principal: -2000 , Years: 2
4. Principal: 2 , Years: 2000
5. Principal: 0 , Years: 5
6. Write a program to print number of factors and to print nth factor of the given number.

Sample Input:

Given Number: 100

N = 4

Sample Output:

Number of factors = 9

4th factor of 100 = 5

Test Cases:

1. Given Number = 512 , N = 6
2. Given Number = 343 , N = 7
3. Given Number = 1024 , N = 0
4. Given Number = -6561 , N = 3
5. Given Number = 0 , N = 2
6. Write a program to print hollow square and full square symbol pattern?

Get the different symbol for hollow square and full square as input from the user

1. [Program to Find Even Sum of Fibonacci Series Till number N](https://www.geeksforgeeks.org/java-program-to-find-sum-of-fibonacci-series-numbers-of-first-n-even-indexes/)?

Sample Input: n = 4

Sample Output: 33

(N = 4, So here the fibonacci series will be produced from 0th term till 8th term: 0, 1, 1, 2, 3, 5, 8, 13, 21

Sum of numbers at even indexes = 0 + 1 + 3 + 8 + 21 = 33)

2. Write a program to print the first n perfect numbers. (Hint Perfect number means **a positive integer that is equal to the sum of its proper divisors)**

Sample Input:

N = 3

Sample Output:

First 3 perfect numbers are: 6 , 28 , 496

Test Cases:

1. N = 0
2. N = 5
3. N = -2
4. N = -5
5. N = 0.2
6. Write a program to print rectangle star and square dollar pattern?
7. Write a program to enter the marks of a student in four subjects. Then calculate the total and aggregate, display the grade obtained by the student. If the student scores an aggregate greater than 75%, then the grade is Distinction. If aggregate is 60>= and <75, then the grade is First Division. If aggregate is 50 >= and <60, then the grade is Second Division. If aggregate is 40>= and <50, then the grade is Third Division. Else the grade is Fail.

Sample Input & Output:

Enter the marks in python: 90

Enter the marks in c programming: 91

Enter the marks in Mathematics: 92

Enter the marks in Physics: 93

Total= 366

Aggregate = 91.5

DISTINCTION

Test cases:

1. 18, 76,93,65
2. 73,78,79,75
3. 98,106,120,95
4. 96,73, -85,95
5. 78,59.8,76,79
6. Write a program to print the numbers from M to N by skipping K numbers in between?

Sample Input:

M = 50

N = 100

K = 7

Sample Output:

50, 58, 66, 74, …..

Test cases:

1. M = 15, N = 05, K = 02
2. .M = 25, N = 50, K = 04
3. M = 15, N = 100, K = -02
4. M = 0 , N = 0 , K = 2
5. M = 200 , N = 200 , K = 50
6. Write a program for matrix addition?

Sample Input:

Mat1 = 1 2

5 3

Mat2 = 2 3

4 1

Sample Output:

Mat Sum = 3 5

9 4

1. Write a program to print rectangle symbol pattern.

Get the symbol as input from user

1. Write a program to calculate tax given the following conditions:
   1. If income is less than or equal to 1,50,000 then no tax
   2. If taxable income is 1,50,001 – 3,00,000 the charge 10% tax
   3. If taxable income is 3,00,001 – 5,00,000 the charge 20% tax
   4. If taxable income is above 5,00,001 then charge 30% tax

Sample Input:

Enter the income:200000

Sample Output:

Tax= 20000

Test cases:

1. 400700
2. 2789239
3. 150000
4. 00000
5. -125486
6. Write a program that would sort a list of names in alphabetical order Ascending or Descending, choice get from the user?

Sample Input:

Banana

Carrot

Radish

Apple

Jack

Order(A/D) : A

Sample Output:

Apple

Banana

Carrot

Jack

Radish

1. Write a program for matrix multiplication?

Sample Input:

Mat1 = 1 2

5 3

Mat2 = 2 3

4 1

Sample Output:

Mat Sum = 10 5

22 18

1. Write a program to enter the marks of a student in four subjects. Then calculate the total and aggregate, display the grade obtained by the student. If the student scores an aggregate greater than 75%, then the grade is Distinction. If aggregate is 60>= and <75, then the grade is First Division. If aggregate is 50 >= and <60, then the grade is Second Division. If aggregate is 40>= and <50, then the grade is Third Division. Else the grade is Fail.

Sample Input & Output:

Enter the marks in python: 90

Enter the marks in c programming: 91

Enter the marks in Mathematics: 92

Enter the marks in Physics: 93

Total= 366

Aggregate = 91.5

DISTINCTION

Test cases:

1. 18, 76,93,65
2. 73,78,79,75
3. 98,106,120,95
4. 96,73, -85,95
5. 78,59.8,76,79
6. Write a program to print the following pattern

Sample Input:

Enter the number to be printed: 1

Max Number of time printed: 3

1

11

111

11

1

1. Write a program to print the special characters separately and print number of Special characters in the line?
2. Write a program to print all the composite numbers between a and b?

Sample Input:

A = 12

B = 19

Sample Output

14, 15, 16, 18

Test cases:

1. A = 11, B = 11
2. A = 20, B = 10
3. A = 0, B = 0
4. A = -5, B = 5
5. A = 7, B = -12

3. Write a program to print the multiplication table of number m up to n.

Sample Input:

M = 4

N = 5

Sample Output:

1x4=4

2x4=8

3x4=12

4x4=16

5x4=20

Test cases:

1. M = 6, N = -3
2. M = -3, N = 5
3. M = 4, N = 0
4. M = 0, N = 0
5. M = -5, N = -5

4. Write a program to read the numbers until -1 is encountered. Find the average of positive numbers and negative numbers entered by user.

Sample Input:

Enter -1 to exit…

Enter the number: 7

Enter the number: -2

Enter the number: 9

Enter the number: -8

Enter the number: -6

Enter the number: -4

Enter the number: 10

Enter the number: -1

Sample Output:

The average of negative numbers is: -5.0

The average of positive numbers is : 8.66666667

Test cases:

1. -1,43, -87, -29, 1, -9
2. 73, 7-6,2,10,28,-1
3. -5, -9, -46,2,5,0
4. 9, 11, -5, 6, 0,-1
5. -1,-1,-1,-1,-1
6. Program to remove duplicates from the sorted array

Sample Input:

Array = {15, 14, 25, 14, 32, 14, 31}

Sample Output:

Sorted Array = {14, 15, 25, 31, 32}

Test cases:

1. {16, 16, 16 16, 16}
2. {0, 0, 0, 0}
3. {-12, -78, -35, -42}
4. {1,2,3,7,8,9,4,5,6}
5. {1-2,2-3,3-4,4-5,5-6}
6. Write a program to print n prime numbers after nth Prime number

Sample Input:

N = 3

Sample Output:

3rd Prime number is 5

3 prime numbers after 5 are: 7, 11, 13

Test cases:

1. N = P
2. N = 0
3. N = -4
4. N = 11
5. N = 7.2
6. Write a program to print the Inverted Full Pyramid pattern?
7. Write a program to read a character until a **\*** is encountered. Also count the number of uppercase, lowercase, and numbers entered by the users.

Sample Input:

Enter \* to exit…

Enter any character: W

Enter any character: d

Enter any character: A

Enter any character: G

Enter any character: g

Enter any character: H

Enter any character: \*

Sample Output:

Total count of lower case:2

Total count of upper case:4

Total count of numbers =0

Test cases:

1. 1,7,6,9,5
2. S, Q, l, K,7, j, M
3. M, j, L, &, @, G
4. D, K, I, 6, L, \*
5. \*, K, A, e, 1, 8, %, \*
6. Find the Mean, Median, Mode of the array of numbers?

Sample Input;:

Array of elements = {16, 18, 27, 16, 23, 21, 19}

Sample Output:  
Mean = 20

Median = 19

Mode = 16

Test cases:

1. Array of elements = {26, 28, 37, 26, 33, 31, 29}

2. Array of elements = {1.6, 1.8, 2.7, 1.6, 2.3, 2.1, .19}

3. Array of elements = {0, 160, 180, 270, 160, 230, 210, 190, 0}

4. Array of elements = {200, 180, 180, 270, 160, 270, 270, 190, 200}

5. Array of elements = {100, 100, 100, 100, 100, 100, 100, 100, 100}

1. Find the factorial of n?

Sample Input:

N = 4

Sample Output:

4 Factorial = 24

Test cases:

1. N = 0
2. N = -5
3. N = 1
4. N = Q
5. N = 3A

3. Write a Program to create a list of all numbers in a range which are perfect squares and the sum of the digits of the number is less than 10.

Sample Input & Output:

Enter lower range: 1

Enter upper range: 40

[1, 4, 9, 16, 25, 36]

Test case:

1. Enter lower range: 50

Enter upper range: 100

1. Enter lower range: 5

Enter upper range: 8

1. Enter lower range: 10

Enter upper range: 5

1. Enter lower range: 500

Enter upper range: 500

1. Enter lower range: 0

Enter upper range: -100

4 .Write a program to print the following pattern

Sample Input:

Enter the Character to be printed: %

Max Number of time printed: 3

%

% %

% % %

1. Find the year of the given date is leap year or not

Sample Input:

Enter Date: 04/11/1947

Sample Output:

Given year is Non Leap Year

Test cases:

1. 04/11/19.47
2. 11/15/1936
3. 31/45/1996
4. 64/09/1947
5. 00/00/2000
6. Find the number of factors for the given number

Sample Input:

Given number: 100

Sample Output:

Number of factors = 9

Test cases:

1. 343
2. 1080
3. -243
4. 101010
5. 0

3. Write a program to calculate the factorial of number using recursive function.

Sample Input & Output:

Enter the value of n: 6

Sample Input & Output:

The factorial of 6 is: 720

Test cases:

1. N = 0
2. N = -5
3. N = 1
4. N = M
5. N = %

4. Write a Program to Find the Nth Largest Number in a array.

Sample Input:

List : {14, 67, 48, 23, 5, 62}

N = 4

Sample Output:

4th Largest number: 23

Test cases:

1. N = 0
2. N = -5
3. N = 1
4. N = M
5. N = %
6. Write a program to print the given number is Perfect number or not?

Sample Input:

Given Number: 6

Sample Output:

It’s a Perfect Number

Test cases:

1. 17
2. 26!
3. 143
4. 84.1
5. -963
6. Write a program to print the number of vowels in the given statement?

Sample Input:

Saveetha School of Engineering

Sample Output:

Number o vowels = 12

Test cases:

1. India is my country
2. All are my brothers and sisters
3. Why dry sky
4. Shy Try Cry
5. EDUCATION
6. Write a program to print number of factors and to print nth factor of the given number.

Sample Input:

Given Number: 100

N = 4

Sample Output:

Number of factors = 9

4th factor of 100 = 5

Test Cases:

1. Given Number = 512 , N = 6
2. Given Number = 343 , N = 7
3. Given Number = 1024 , N = 0
4. Given Number = -6561 , N = 3
5. Given Number = 0 , N = 2
6. Write a program to print hollow square symbol pattern?

Get the symbol from user.

1. Write a program to print unique permutations of a given number

Sample Input:

Given Number: 143

Sample Output:

Permutations are:

134

143

314

341

413

431

Test cases:

1. 0
2. 111
3. 505
4. -143
5. -598
6. Write a program to print consonants and vowels separately in the given word

Sample Input:

Given Word: Engineering

Sample Output:

Consonants: n g n r n g

Vowels: e i e ei

Test cases:

1. TRY
2. MEDIAN
3. ONE
4. KNOWLEDGE
5. EDUCATION
6. Write a Program to create an array with the First Element as the Number and Second Element as the Square of the Number.

Sample Input:

Enter the lower range:45

Enter the upper range:49

Sample Output:

[(45, 2025), (46, 2116), (47, 2209), (48, 2304), (49, 2401)]

Test case:

1. Enter lower range: 50

Enter upper range: 100

1. Enter lower range: 5

Enter upper range: 8

1. Enter lower range: 10

Enter upper range: 5

1. Enter lower range: 500

Enter upper range: 500

1. Enter lower range: 0

Enter upper range: -100

1. Write a program to print the Fibonacci series.

Sample Input:

Enter the n value: 6

Sample Output:

0 1 1 2 3 5

Test Condition: Implement negative Fibonacci series

1. Write a program to print the below pattern

1

2 2

3 3 3

4 4 4 4

1. Write a program to find the square, cube of the given decimal number

Sample Input:

Given Number: 0.6

Sample Output:

Square Number: 0.36

Cube Number:0.216

Test cases:

1. 12
2. 0
3. -0.5
4. 14.25
5. -296
6. Program to find the frequency of each element in the array.

Sample Input & Output:

{1, 2, 8, 3, 2, 2, 2, 5, 1}

Element | Frequency

--------------------------

1 | 2

2 | 4

8 | 1

3 | 1

5 | 1

1. Write a program to print the given number is Perfect number or not?

Sample Input:

Given Number: 6

Sample Output:

It’s a Perfect Number

Test cases:

1. 17
2. 26!
3. 143
4. 84.1
5. -963
6. Write a program to convert the Binary to Decimal, Octal

Sample Input:

Given Number: 1101

Sample Output:

Decimal Number: 13

Octal:15

Test cases:

1. 211
2. 11011
3. 22122
4. 111011.011
5. 1010.0101
6. Write a program to find the number of special characters in the given statement

Sample Input:

Given statement: Modi Birthday @ September 17, #&$% is the wishes code for him.

Sample Output:

Number of special Characters: 5

1. Write a Program to Remove the Duplicate Items from a array.

Sample Input:

Enter the number of elements in array:7

Enter element1:10

Enter element2:20

Enter element3:20

Enter element4:30

Enter element5:40

Enter element6:40

Enter element7:50

Sample Output:

Non-duplicate items:

[10, 20, 30, 40, 50]

1. Find the factorial of n?

Sample Input:

N = 6

Sample Output:

6 Factorial = 720

Test cases:

1. N = 0
2. N = -5
3. N = 1
4. N = Q
5. N = 3A
6. Write a program to print the below pattern

1

8 27

64 125 216

343 512 729 1000

1. Write a program to find the number of composite numbers in an array of elements

Sample Input;:

Array of elements = {16, 18, 27, 16, 23, 21, 19}

Sample Output:  
Number of Composite Numbers = 5

Test cases:

1.Array of elements = {26, 28, 37, 26, 33, 31, 29}

2. Array of elements = {1.6, 1.8, 2.7, 1.6, 2.3, 2.1, .19}

3. Array of elements = {0, 160, 180, 270, 160, 230, 210, 190, 0}

4. Array of elements = {200, 180, 180, 270, 270, 270, 190, 200}

5. Array of elements = {100, 100, 100, 100, 100, 100, 100, 100}

3 How to generate Negative Fibonacci series?

4 Find the maximum of three integers using looping.

Sample Input:

Given Numbers: 1101, 1011, 1001

Sample Output:

Maximum Number: 1101

1. Write a program to check if a given year is leap year or not. If it is leap year then print the next leap year, if it is non-leap year then print the previous leap year.

Sample Input:

Enter Date : 1947

Sample Output:

Given year is Non Leap Year

Leap Year: 1944

Test cases:

1. 19.47
2. 1936
3. 0
4. 2000
5. -1428
6. Find the nth odd number after n odd number

Sample Input:

N : 4

Sample Output:

4th Odd number after 4 odd numbers = 15

Test cases:

1. N = 0
2. N = -6
3. N = 2021
4. N = -14.5
5. N = -196
6. Write a program that finds whether a given character is present in a string or not. In case it is present it prints the index at which it is present. Do not use built-in find functions to search the character.

Sample Input:

Enter the string: I am a programmer

Enter the character to be searched: p

Sample Output:

P is found in string at index: 8

Note: Check for non-available Character in the given statement as Hidden Test case.

1. Write a program to print the below pattern

1

2 2

3 3 3

4 4 4 4

3 3 3

2 2

1

1. Program to find whether the given number is Armstrong number or not

Sample Input:

Enter number : 153

Sample Output:

Given number is Armstrong number

Test cases:

1. 370
2. 1
3. 371
4. 145678
5. 0.21345
6. Write a program to arrange the letters of the word alphabetically in reverse order

Sample Input:

Enter the word : MOSQUE

Sample Output:

Alphabetical Order: U S Q O M E

Test Case:

1. HYPOTHECATION
2. MATRICULATION
3. MANIPULATION
4. SATISFACTION
5. DEDICATION
6. Write a program that accepts a string from user and displays the same string after removing vowels from it.

Sample Input & Output:

Enter a string: we can play the game

The string without vowels is: w cn ply thgm

1. Write a program to print hollow Square Dollar pattern and full rectangle star pattern?
2. Write a program to find the sum of digits of N digit number (sum should be single digit)

Sample Input:

Enter N value : 3

Enter 3 digit number: 143

Sample Output:

Sum of 3 digit number: 8

Test cases:

1. N = 2, 158
2. N = 3, 14
3. N = 4, 0148
4. N = 1, 0004
5. N = 4, 7263
6. Write a program to find the square root of a perfect square number(print both the positive and negative values)

Sample Input:

Enter the number : 6561

Sample Output:

Square Root: 81, -81

Test cases:

1. 1225
2. 9801
3. 1827
4. -100
5. 0
6. Write a program for matrix multiplication?

Sample Input:

Mat1 = 1 2

5 3

Mat2 = 2 3

4 1

Sample Output:

Mat Sum = 10 5

22 18

4 Write a program to print inverted pyramid pattern.