1. Write a Python program which accepts a sequence of comma-separated numbers from user and generate a list and a tuple with those numbers.

1. Write a Python program that accepts an integer (n) and computes the value of n+nn+nnn

1. Write a Python program to get the difference between a given number and 17, if the number is greater than 17 return double the absolute difference.

1. Write a Python program to test whether a number is within 100 of 1000 or 2000.

1. Write a Python program to calculate the sum of three given numbers, if the values are equal then return three times of their sum.

1. Write a Python program to get a new string from a given string where "Is" has been added to the front. If the given string already begins with "Is" then return the string unchanged.

1. Write a Python program to find whether a given number (accept from the user) is even or odd, print out an appropriate message to the user.

1. Write a Python program to concatenate all elements in a list into a string and return it.

1. Write a Python program to compute the greatest common divisor (GCD) of two positive integers.

1. Write a Python program to get the least common multiple (LCM) of two positive integers.

1. Write a Python program to sum of two given integers. However, if the sum is between 15 to 20 it will return 20

1. Write a Python program that will return true if the two given integer values are equal or their sum or difference is 5

1. Write a Python program to take the user information for n students details like name, age, address and print them on different lines.

1. Write a Python program to find the sum of array (hint take a list as array).

1. Write a Python program to imitate bank transactions like deposit, withdrawal and check balance.

1. Write a Python program to imitate login activity of a user also do its validation. (hint:-If user enters the wrong userid or password it should provide a message)

1. Write a Python program to imitate a shopping transaction where user purchase 5 notebooks of 20 rs each and 2 pens of 5 rs each. Show the total amount to be payable to the shopkeeper.

1. Accept the age of the person and print an appropriate message as per the table given alongside:

Age	Message
<=12	You are child
13-19	You are a teenager
20-59	You are an adult
>= 60	You are a senior citizen

1. Accept the purchases made by a customer and calculate and print the discount payable by him. You are given that a discount of 10% is given on purchases greater than Rs. 3000/- and no discount is given for purchases below that.

1. Accept the gross salary of an employee. Calculate and print the tax based on the given criteria.

Salary	Tax Rate
Upto Rs.2,00,000	Nil
2,00,001-5,00,000	10%
Above 5,00,000	20%

1. Scholarships are given to students on the following basis:

Percentage obtained	Scholarship Amount
>=90	5000
>=80	1000
Otherwise	Nil

1. Accept the quantity of an item purchased and its price. Calculate the amount of purchase. If the amount exceeds Rs.5000, a discount of 20% is given otherwise the discount rate is 10%. Print the input values, the discount rate and amount, net amount to be paid by the customer.

1. Accept the marks obtained by the 5 students for subjects of Python, Statistics, Machine Learning, Deep Learning, Big-Data also all marks are out of 100. Find the sum and percentage of the for all students and display the name and marks of the first rank holder.

1. Given 2 int arrays, a and b, each length 3, return a new array length 2 containing their middle elements.

```
middle_way([1, 2, 3], [4, 5, 6]) → [2, 5]
middle_way([7, 7, 7], [3, 8, 0]) → [7, 8]
middle_way([5, 2, 9], [1, 4, 5]) → [2, 4]
```

1. Given an array of ints, return a new array length 2 containing the first and last elements from the original array. The original array will be length 1 or more.

```
make_ends([1, 2, 3]) → [1, 3]
make_ends([1, 2, 3, 4]) → [1, 4]
make_ends([7, 4, 6, 2]) → [7, 2]
```

1. Write a Python program to find the Mean, Median and Mode of three user entered values

1. Write a Python program to check the validity of password input by users. Go to the editor Validation:

```
a.    At least 1 letter between [a-z] and 1 letter between [A-Z].
b.    At least 1 number between [0-9].
c.    At least 1 character from [$#@].
d.    Minimum length 6 characters.
e.    Maximum length 16 characters.
```

1. Write a program to print the A using stars

1. Write a program to print the B using stars

1. Write a program to print the C using stars

1. Write a program to print the D using stars

1. Write a program to print the E using stars

1. Write a program to print the F using stars

1. Write a program to print the G using stars

1. Write a program to print the H using stars

1. Write a program to print the I using stars

1. Write a program to print the J using stars

1. Write a program to print the K using stars

1. Write a program to print the L using stars

1. Write a program to print M using stars

1. Write a program to print N using stars

1. Write a program to print O using stars

1. Write a program to print P using stars

1. Write a program to print Q using stars

1. Write a program to print R using stars

1. Write a program to print the S using stars

1. Write a program to print the T using stars

1. Write a program to print the U using stars

1. Write a program to print the V using stars

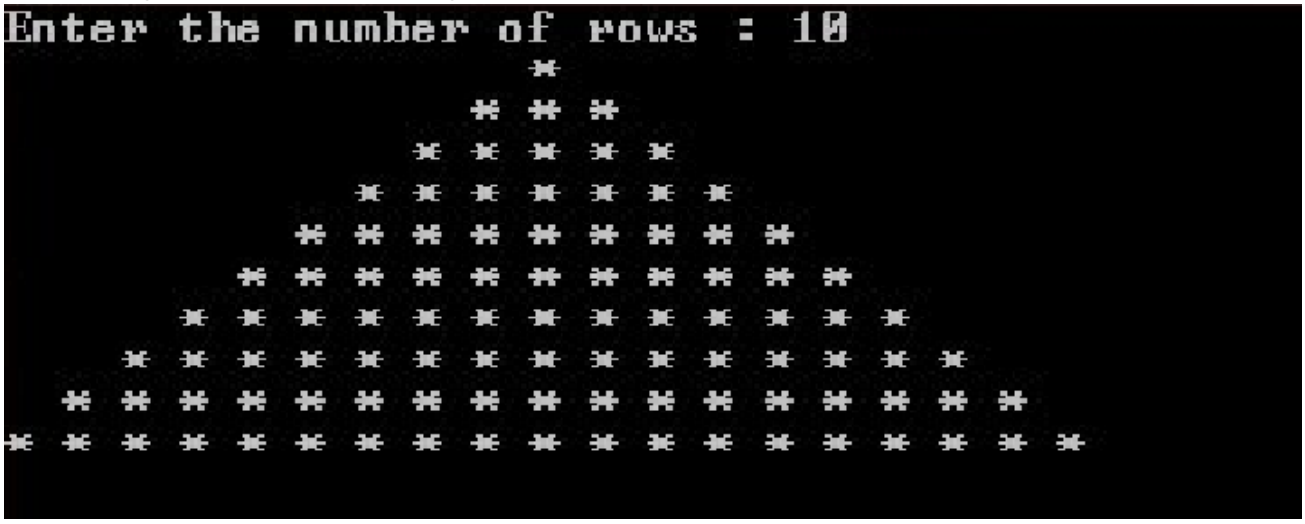
1. Write a program to print the W using stars

1. Write a program to print the X using stars

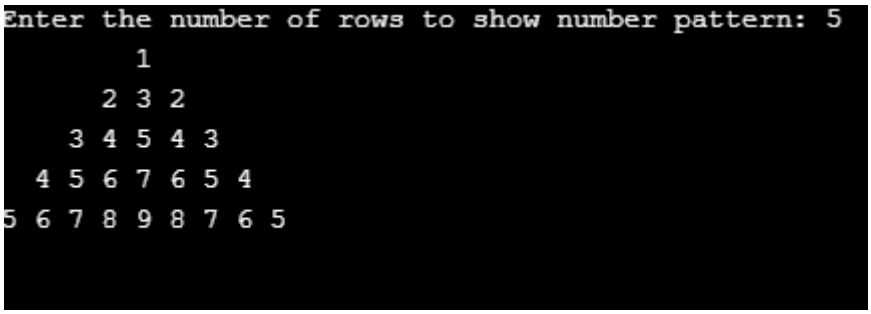
1. Write a program to print the Y using stars

1. Write a program to print the z using stars

1. Write a program to print the following pattern



1. Write a program to print the following pattern



1. Write a program to print the following pattern

1. Write a program to find the largest of two numbers without using function.

1. Write a program to find the largest of three numbers without using functions.

1. Write a program to find the average of 10 numbers entered from the user.

1. Write a program to find even and odd numbers from the given list

1. Write a program to append elements of various datatypes (total three elements 1 integer, 1 float and 1 string)

1. Write a program to illustrate the difference between append and extend functions in list.

1. Write a program to reverse a string input should be taken from the user.

1. Write a program to reverse a number input should be taken from the user.

1. Write a program using functions to create a calculator (only +, -, * and /) operations should be performed.

1. Write a program to add all the elements in the list without using inbuilt function.

1. Write a program to take two lists from the user and add the element present at same index from two list and create a third list. for e.g. element at index 1 of list 1 should get added with element at index 1 of list 2 and so on.

1. Write a program to get whether the element is prime or no.

1. Write a program to get the prime no up to n. n should be taken from the user.

1. Write a program to find sum of first 10 natural no.

1. Write a program to find sum of first n natural no value of n should be taken from the user.

1. Write a program to calculate area of various shapes like circle, rectangle and square using function.

1. Write a program to calculate Simple Interest using function. Take the values from the user for P, N, and R.

1. Write a program to calculate Compound Interest using function. Take the required parameter from the user.

1. Write a program to take the paise value from the user and convert it into rupee.

1. Write a program to convert temperature in degree to Celsius and vice-versa.

1. Write a program to take a list from the user and find the cube and square root of every number in it.

1. Write a program to find the Second Largest Number in a List?

1. Write a program to Swap the first and last value of a List?

1. Write a program to count the number of Vowels in a String?

1. Write a program to check common letters in two input String?

1. Write a program to check if a number is an Armstrong Number?

1. Write a program to print Table of given number.

1. Write a program to count the number of Digits in a number?

1. Write a program to find sum of the digits of a number in python?

1. Write a Python program to find those numbers which are divisible by 7 and multiple of 5, between 1500 and 2700 (both included).

1. Write a Python program to convert temperatures to and from celsius, fahrenheit. [Formula : c/5 = f-32/9 [where c = temperature in celsius and f = temperature in fahrenheit].

1. Write a Python program that accepts a word from the user and reverse it.

1. Program to find the square root.

1. Program to calculate the area of a triangle.

1. Program to solve Quadratic Equation.

1. Program to swap Two Variables.

1. Program to generate a random number

1. Program to convert kilometers to Miles

1. Program to find the largest among three numbers

1. Program to check leap year

1. Program to check if a number is positive, negative or 0.

1. Program to check prime number

1. Program to check prime numbers in an interval.

1. Program to find the factorial of a number

1. Program to display the multiplication table.

1. Program to find Armstrong Number in an interval.

1. Program to find the sum of Natural Numbers.

1. Program to find factors of Number.

1. Program to make a Simple Calculator.

1. Program to find LCM.

1. Program to check whether a string is palindrome.

1. Program to sort words in Alphabetic order.

1. Program to count the number of each vowel.

1. Write a Python program to print alphabet pattern 'A'.

1. Write a Python program to construct the following pattern, using a nested loop number.

1. Accept a character from the user and check for the following and display appropriate messages:
2. Is the character a vowel or consonant?
3. Is the character in uppercase or lowercase?
4. Does the character occur in the string “Data Science” and if so at what position?

1. Write a function to add two numbers.

1. Write a function to calculate the average of two numbers.

1. Write a function to calculate the square of sum of two numbers.

1. Write a function to check whether the number is in the range 50 to 100.

1. Write a program to shift inputed data by two bits to left

1. Write a program to find the entered year is a leap year or not.

1. Write a program to sort the given string in descending order.

1. Write a program to sort the given string in ascending order

1. Write a program to sort the list without inbuilt function

1. Write a program to show the use of all comparison operators

1. Write a Program to show the use of all logical operators.

1. Write a Program to find gross Salary.

1. Write a program to shift inputed data by two bits to right.

1. Write a program to show the use of various arithmetic operators using if ..elif..else.

1. Write a program to find Fibonacci series up to 100.

1. Write a program to display sum of series 1+1/2+1/3+…..+1/n.

1. Write a program to display series and find sum of 1+3+5+…+n.

1. Write a program to show use of bitwise operator.

1. Write a program to find square of a number using functions.

1. Write a program to swap two numbers using functions.

1. Write a program to show use of break statement.

1. Write a program to evaluate equation y=xn when n is a non-negative integer.

1. Write a program to show use of List Comprehension.

1. Write a program to show use of lambda function.

1. Write a program to calculate factorial of a number using functions.

1. Write a program to show table of a number using functions.

1. Given below is the list of marks obtained by a class of 50 students in an annual examination. 43 65 51 27 79 11 56 61 82 09 25 36 07 49 55 63 74 81 49 37 40 49 16 75 87 91 33 24 58 78 65 56 76 67 45 54 36 63 12 21 73 49 51 19 39 49 68 93 85 59 Write a program to count the number of students belonging to each of following groups of marks: 0-9, 10-19, 20-29,.....,100.

1. Write a program to sort a list and then find the median from it.

1. Write a program to find the second highest value from the list.

1. Write a program to find second smallest value from the list

1. Write a program for removing the duplicate element in the list.

1. Write a program to evaluate the series 1/(1-x)=1+x+x2+x3+x4+…+xn.

1. Write a program to show use of continue statement.

1. Take three list from user first list is of gender second list of height and third list of weight for 15 students and then perform following things

2. Calculate number of male and female
3. Find out students with gender=male and height above 5 feet.
4. Find out students with gender =male, height >=5 feet and weight above 70 kg
5. Find out students with gender = female, height >=4.8 feet. </pre>

1. Write a program to read a sentence from the user in any case and convert it into upper case.

1. Write a program to read a sentence from the user in any case and convert it into lower case.

1. Program to convert days to months and days.

1. A computer manufacturing company has the following monthly compensation policy to their salespersons: Minimum base salary : 1500.00 Bonus for every computer sold : 200.00 Commission on the total monthly sales : 2 per cent Since the prices of computers are changing, the sales price of each computer is fixed at the beginning of every month.

1. Write a program to show the use of multiple for loop.

1. Write a program to show the use of if elif and else statement.

1. Write a program to show the use of if else statement.

1. Write a program to show the use of if statement

1. Write a program to evaluate the equation s=sqrt(a()+b()) using functions(Where a() and b() are function which perform some task)

1. Write a program to show use of functions with and without arguments.

1. Write a program to take a sentence from the user and then find count of elements in the sentence. (hint: that is calculate how many alphabets how many whitespaces etc.are present)

1. Write a program to take 5 names in the list and sort that list in ascending and descending orders and store the output in two different list.

1. Write a program to illustrate various inbuilt functions in Dictionaries.

1. Write a program to illustrate various inbuilt functions in sets.

1. Write a program to illustrate various inbuilt functions in strings.

1. Write a program to illustrate various inbuilt functions in tuples.

1. Write a program to illustrate various inbuilt functions in lists.

1. Write a program to copy one string into another and count the number of characters copied.

1. Write a program to identify the profit and loss in an organization assume your own suitable data.

1. Write a program which take a string from the user and decrypt it using shift by 3 method (hint: if user enters the value C it should be encrypted as A and so on.)

1. Write a python program to evaluate the following series

1. Write a program to calculate standard deviation and variance. Assume the data in the list.

1. Find the output of the following code: -

```
def bs(a):
b=len(a)-1
for x in range(b): for y in range(b-x): if a[y]>a[y+1]: a[y],a[y+1]=a[y+1],a[y] return a

a=[32,5,3,6,7,54,87] bs(a) </pre>
```

1. Find the output of the following code: -

```
def pyfunc(r): for x in range(r): print(' '(r-x-1)+"(2x+1))
pyfunc(9)

</pre>
```

1. Find the output of the following code: -

```
Enter number of terms needed
a=int(input("Enter the terms")) f=0
s=1
if a<=0: print("The requested series is ",f) else: print(f,s,end=" ") for x in range(2,a): next=f+s
print(next,end=" ") f=s s=next

</pre>
```

1. Write a program to print the following pattern

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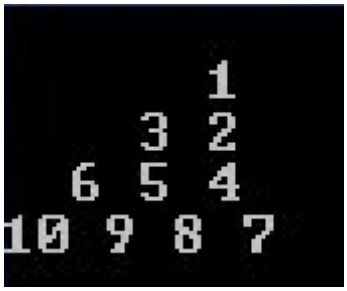

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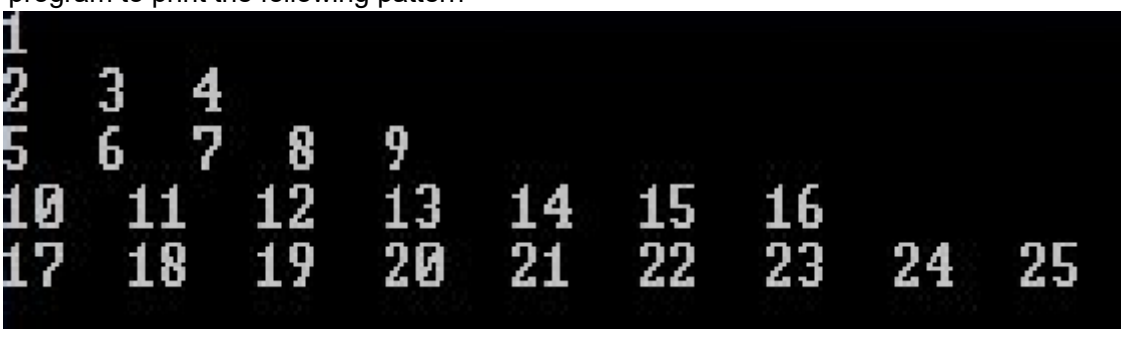

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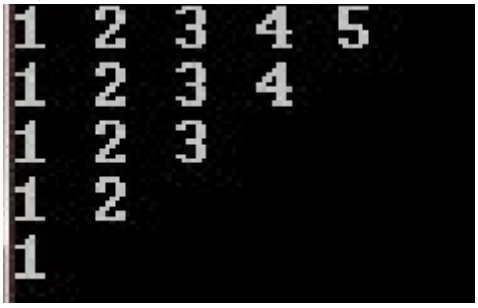

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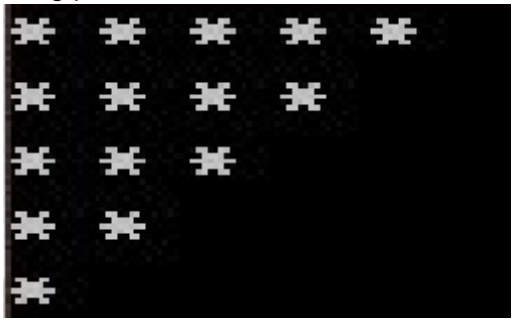

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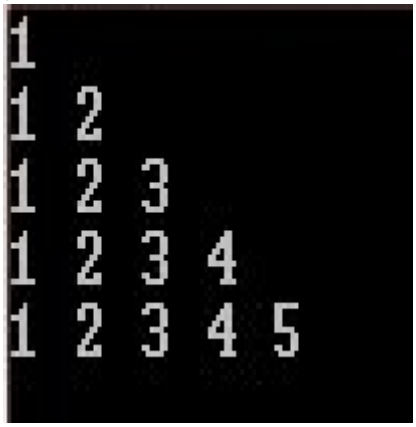

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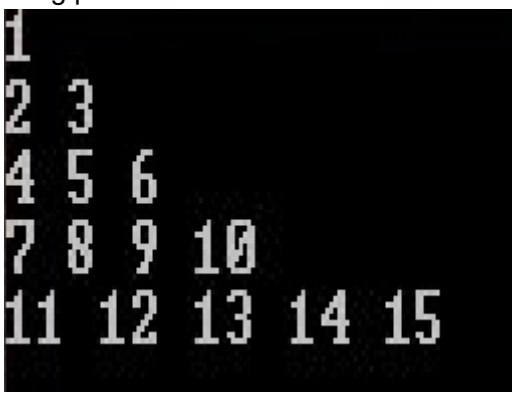

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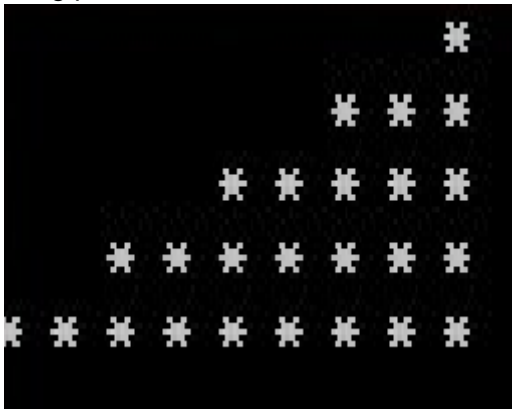

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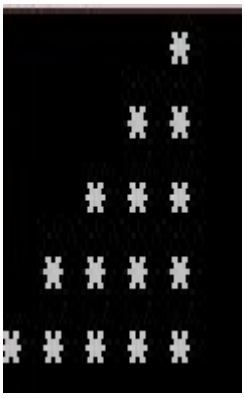


1. Write a program to print the following pattern

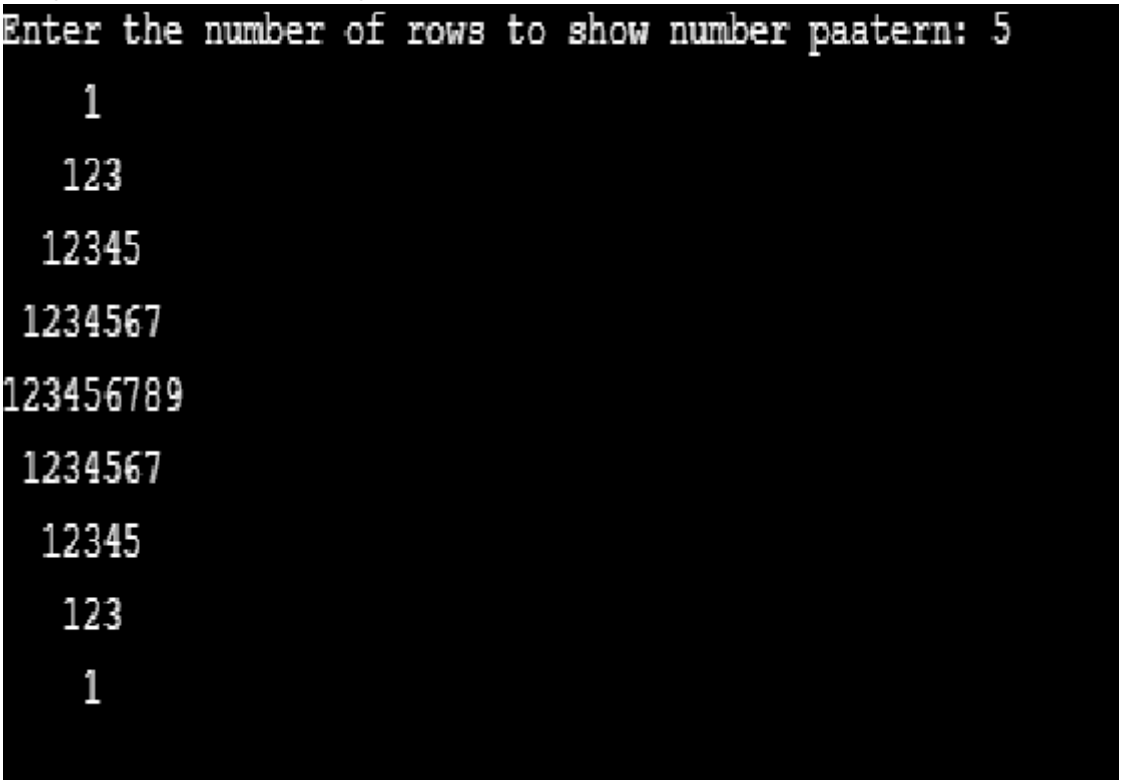
1. Write a program to print the following pattern

1. Write a program to print the following pattern

1. Write a program to print the following pattern

```
Enter the number of rows to show number paatern: 10
1                   1
12                  21
123                 321
1234                4321
12345               54321
123456              654321
1234567            7654321
12345678          87654321
123456789        987654321
12345678910987654321
```

1. Write a program to print the following pattern



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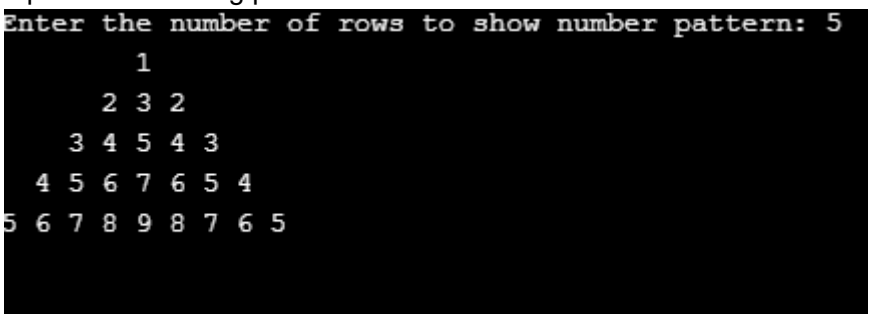

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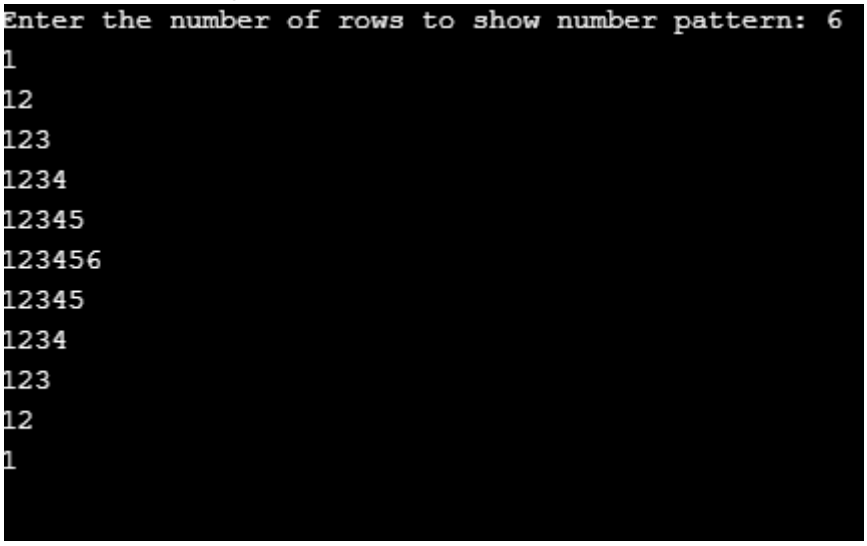

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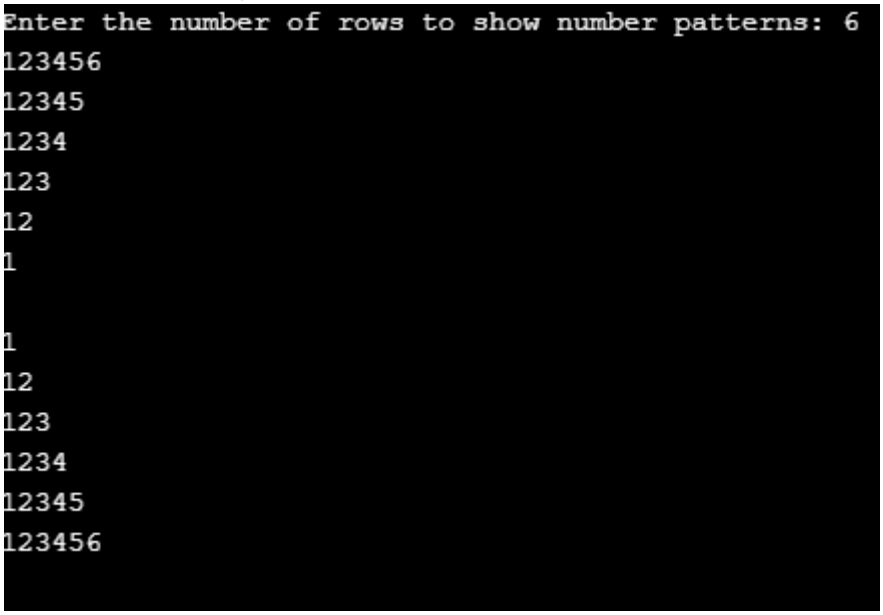

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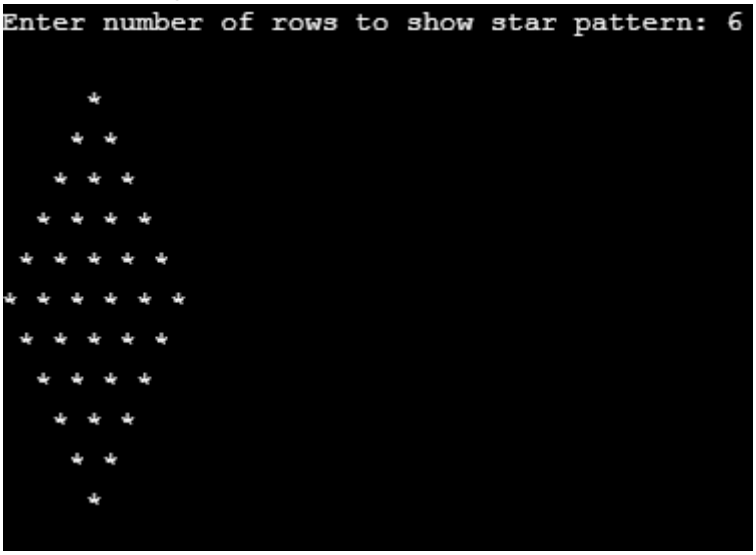

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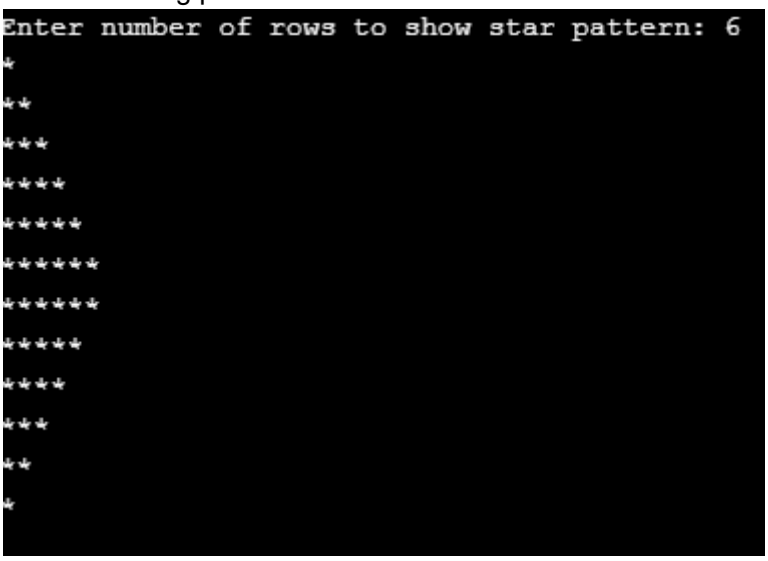

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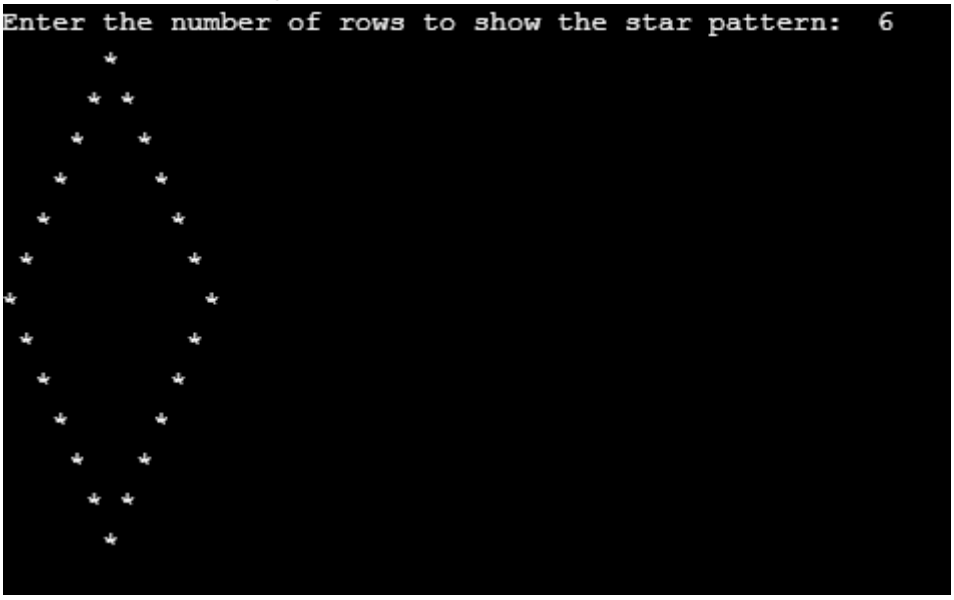

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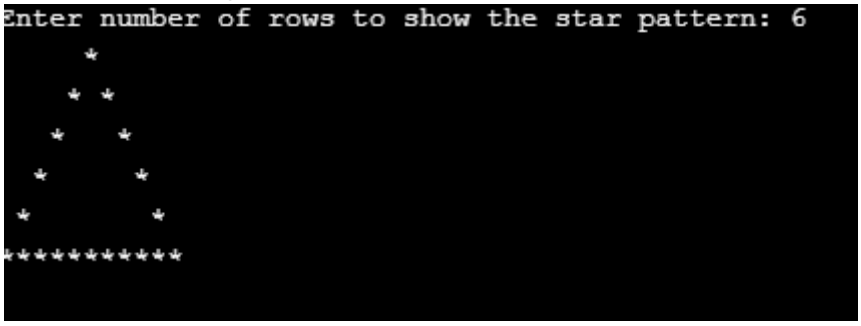

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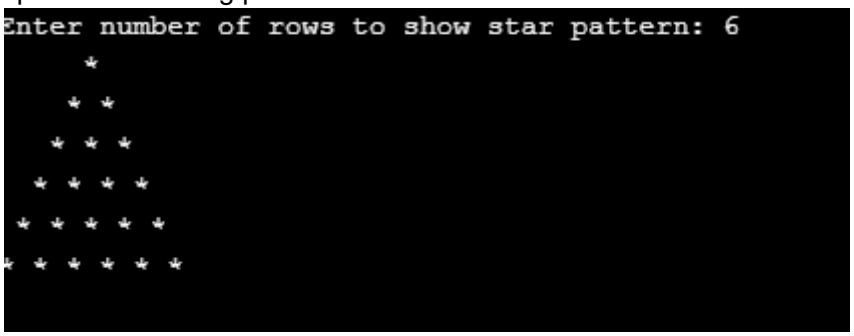


1. Write a program to print the following pattern

```
Enter number of rows to show character pattern: 6
A
AB
ABC
ABCD
ABCDE
ABCDEF
```

1. Write a program to print the following pattern

```
Enter number of rows to show character pattern: 6
A
BB
CCC
DDDD
EEEEE
FFFFFF
```

1. Write a program to print the following pattern

```
Enter number of rows to show character pattern: 6
AAAAAA
BBBBB
CCCC
DDD
EE
F
```

1. Write a program to print the following pattern

```
********
 ********
  ********
   ********
    ********
     ********
      ********
       ********
```

1. Write a program to find GCD.

1. A. Write a Python program calculate the salary of an employee by using salary equals to basic salary + H R A minus Income Tax assume that employees are categorised into 2 grade 1 and Grade 2 if the employees belong to grade 1 hr calculated 15% basic salary and calculate 30% basic salary if the employee belong to read 2001 calculated 10% basic salary and calculated 25% of basic salary and for both grade employees income tax will be calculated as 5% of basic salary

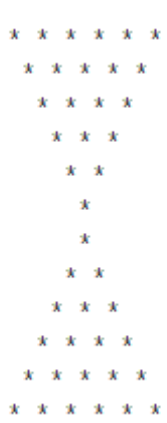
1. Write a Python function that accepts student names and marks (store in list). Calculate the total marks and average based on the input. Display student names and marks, total and average.

1. Print string of odd length in the string X format.

```
Input: 12345
Output:
1       5
  2   4
    3
  2   4
1       5

Input: geeksforgeeks
Output:
g                         s
  e                     k
    e                 e
      k             e
        s         g
          f     r
             o
          f     r
        s         g
      k             e
    e                 e
  e                     k
g                         s
```

1. Write hour glass partten program



1. Given the value of length, print the X pattern in a box using # and ” ” based on the input as given below

```
Input  :   10
Output :   ##########
           ##      ##
           # #    # #
           #  #  #  #
           #   ##   #
           #   ##   #
           #  #  #  #
           # #    # #
           ##      ##
           ##########
```

1. What Is The Result Of The Below Lines Of Code?Here is the example code.

```
def fast (items= []):
     items.append (1)
     return items

print fast ()
print fast ()
```

1. How Would You Produce A List With Unique Elements From A List With Duplicate Elements? Example :- This is the list ['a','b','c','d','d','d','e','a','b','f','g','g','h',i,k,k,p]

1. Give the output of the given sinpet and explain the code.

```
test_list = [(1, 4), (6, 5), (8, 10)]
print("The original list : " + str(test_list))
res = sorted(test_list, key = lambda sub: abs(sub[1] - sub[0]))
print(str(res))

```

1. Write a program to delete each element in the list which is divisible by 2 or all the even numbers. example: - list1 = [11,5,17,4,18,23,50,10]

1. Write a program to convert a list of multiple integers into a single integer Example where input is [1 ,2 ,3] and output is [123]

1. Write a program to count the number of each vowel in a string using dictionary and list comprehension.

1. Write a program to remove all the punctuations from a string and check each character of the string using for loop, If the character is a punctuation, assign an empty string to it.

1. Write a python program to find the second largest number in a list and explain the steps.

1. What Is The Output Of The Following Code Snippet?

```
def func(message, num = 1):
    print(message * num)

func('Welcome')
func('Viewers', 3)
```

1. What Is The Output Of The Following Code Snippet?

```
def my_func(text, num):
    while num > 0:
        print(text)
    num = num - 1
my_func('Hello' , 4)
```

1. What Is The Output Of The Following Code Snippet?

```
def func(x = 1, y = 2):
    x = x + y
    y += 1
    print(x, y)
func(y = 2, x = 1)
```

1. What Is The Output Of The Following Code Snippet?

```
num = 1
def func():
    num = num + 3
    print(num)

func()
print(num)
```

1. What Is The Output Of The Following Code Snippet?

```
num = 1
def func():
    global num
    num = num + 3
    print(num)

func()
print(num)
```

1. Which of the following is valid ?

a) _a = 1
b) __a = 1
c) __str__ = 1
d) none of the mentioned

1. Which of the following is invalid variable ?

a) my_string_1
b) 1st_string
c) foo
d) _

1. Which of the following is the invalid statement ?

a) abc = 1,000,000
b) a b c = 1000 2000 3000
c) a,b,c = 1000, 2000, 3000
d) a_b_c = 1,000,000

1. Find error in given code

```
def favorite_ice_cream():
    ice_creams = [
        "chocolate",
        "vanilla",
        "strawberry"
    ]
    print(ice_creams[3])

favorite_ice_cream()
```

1. Find error in the given code and justify .

```
def some_function()
    msg = "hello, world!"
    print(msg)
     return msg
```

1. Find Error in given code and justify

```
Count = 0
for number in range(10):
    count = count + number
print("The count is:", count)
```