Perfect Plan B

Learn, grow and become leaders of tomorrow

Problem 1 : Python Program to add two numbers

Example:

Input: num1 = 5, num2 = 3
Output: 8

Input: num1 = 13, num2 = 6
Output: 19

Solution 1 : Python Program to add two numbers

```
# Python3 program to add two numbers

num1 = 15
num2 = 12

# Adding two nos
sum = num1 + num2

# printing values
print("Sum of {0} and {1} is {2}" .format(num1, num2, sum))
```

Solution 2 : Python Program to add two numbers

```
# Python3 program to add two numbers

number1 = input("First number: ")
number2 = input("\nSecond number: ")

# Adding two numbers
# User might also enter float numbers
sum = float(number1) + float(number2)

# Display the sum
# will print value in float
print("The sum of {0} and {1} is {2}" .format(number1, number2, sum))
```

Problem 2 : Python Program for factorial of a number

$$n! = n * (n-1) * (n-2) * \ldots\ldots * 1$$

Examples :

$$4! = 4*3*2*1 = 24$$

$$6! = 6*5*4*3*2*1 = 720$$

Problem 3 : Python Program for simple interest

Simple interest formula is given by:

Simple Interest = (P x T x R)/100

Where,

P is the principle amount

T is the time and

R is the rate

```
EXAMPLE1:
Input : P = 10000
        R = 5
        T = 5
Output :2500
We need to find simple interest on
Rs. 10,000 at the rate of 5% for 5
units of time.

EXAMPLE2:
Input : P = 3000
        R = 7
        T = 1
 Output :210
```

Problem 4 : Python Program for compound interest

Formula to calculate compound interest annually is given by:

Compound Interest = P(1 + R/100) t

Where,

P is principle amount

R is the rate and

T is the time span

```
Input : Principle (amount): 1200
        Time: 2
        Rate: 5.4
Output : Compound Interest =
1333.099243
```

Problem 5 : Python Program to check Armstrong Number

```
Input : 153
Output : Yes
153 is an Armstrong number.
1*1*1 + 5*5*5 + 3*3*3 = 153

Input : 120
Output : No
120 is not a Armstrong number.
1*1*1 + 2*2*2 + 0*0*0 = 9

Input : 1253
Output : No
1253 is not a Armstrong Number
1*1*1*1 + 2*2*2*2 + 5*5*5*5 + 3*3*3*3 =
723

Input : 1634
Output : Yes
 1*1*1*1 + 6*6*6*6 + 3*3*3*3 + 4*4*4*4 =

 1634
```

Problem 6 : Python Program for Program to find area of a circle

```
Area = pi * r2
 where r is radius of circle
```

Problem 7 : Python program to print all Prime numbers in an Interval

Given two positive integer start and end. The task is to write a Python program to print all Prime numbers in an Interval.

Definition: A prime number is a natural number greater than 1 that has no positive divisors other than 1 and itself. The first few prime numbers are {2, 3, 5, 7, 11, ...}.

Problem 8 : Python program to check whether a number is Prime or not

Definition: A prime number is a natural number greater than 1 that has no positive divisors other than 1 and itself. The first few prime numbers are {2, 3, 5, 7, 11, ...}.


```
Input:  n = 11

Output: true

Input:  n = 15

Output: false
```

Problem 9 : Python Program for n-th Fibonacci number

In mathematical terms, the sequence Fn of Fibonacci numbers is

defined by the recurrence relation

```
Fn = Fn-1 + Fn-2
```

with seed values

```
F0 = 0 and F1 = 1.
```

Hint : Recursion

Problem 10 : Python Program for printing Fibonacci numbers

In mathematical terms, the sequence Fn of Fibonacci numbers is

defined by the recurrence relation

```
Fn = Fn-1 + Fn-2
```


with seed values

```
F0 = 0 and F1 = 1.
```

Hint : Recursion

Problem 11 : Python Program for How to check if a given number is Fibonacci number?

```
Input : 8

Output : Yes

Input : 34

Output : Yes

Input : 41

Output : No
```

Problem 12 : Program to print ASCII Value of a character

```
Input : a
```

```
Output : 97
```



```
Input : D
```

```
Output : 68
```

Problem 13 : Python Program for Sum of squares of first n natural numbers

```
Input : N = 4

Output : 30

= 1 + 4 + 9 + 16

= 30
```



```
Input : N = 5

Output : 55
```

Problem 14 : Python Program for cube sum of first n natural numbers

```
Input : n = 5

Output : 225

13 + 23 + 33 + 43 + 53 = 225
```



```
Input : n = 7

Output : 784

13 + 23 + 33 + 43 + 53 +

63 + 73 = 784
```

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