### Exercise 1: Calculate the multiplication and sum of two numbers

Given two integer numbers return their product only if the product is equal to or lower than 1000, else return their sum.

**Given** 1:

number1 = 20

number2 = 30

**Expected Output**:

The result is 600

**Given** 2:

number1 = 40

number2 = 30

**Expected Output**:

The result is 70

**Exercise 2: Print the sum of the current number and the previous number**

Write a program to iterate the first 10 numbers and in each iteration, print the sum of the current and previous number.

**Expected Output**:

Printing current and previous number sum in a range(10)

Current Number 0 Previous Number 0 Sum: 0

Current Number 1 Previous Number 0 Sum: 1

Current Number 2 Previous Number 1 Sum: 3

Current Number 3 Previous Number 2 Sum: 5

Current Number 4 Previous Number 3 Sum: 7

Current Number 5 Previous Number 4 Sum: 9

Current Number 6 Previous Number 5 Sum: 11

Current Number 7 Previous Number 6 Sum: 13

Current Number 8 Previous Number 7 Sum: 15

Current Number 9 Previous Number 8 Sum: 17

**Exercise 3: Print characters from a string that are present at an even index number**

Write a program to accept a string from the user and display characters that are present at an even index number.

For example, str = "pythonnaturalsvision" so you should display ‘p’, ‘n’, ‘t’, ‘v’.

**Expected Output**:

Orginal String is pythonnaturalsvision

Printing only even index chars

ptontrlvso

**Exercise 4: Remove first n characters from a string**

Write a program to remove characters from a string starting from zero up to n and return a new string.

For example:

* remove\_chars("python", 4) so output must be on. Here we need to remove first four characters from a string.
* remove\_chars("python", 2) so output must be thon. Here we need to remove first two characters from a string.

**Note**: n must be less than the length of the string.

**Exercise 5: Check if the first and last number of a list is the same**

Write a function to return True if the first and last number of a given list is same. If numbers are different then return False.

**Given**:

numbers\_x = [10, 20, 30, 40, 10]

numbers\_y = [75, 65, 35, 75, 30]

**Expected Output**:

Given list: [10, 20, 30, 40, 10]

result is True

numbers\_y = [75, 65, 35, 75, 30]

result is False

**Exercise 6: Display numbers divisible by 5 from a list**

Iterate the given list of numbers and print only those numbers which are divisible by 5

**Expected Output**:

Given list is [10, 20, 33, 46, 55]

Divisible by 5

10

20

55

**Exercise 7: Return the count of a given substring from a string**

Write a program to find how many times substring “**Emma**” appears in the given string.

**Given**:

str\_x = "Emma is good developer. Emma is a writer"

**Expected Output**:

Emma appeared 2 times

Hint: Try to use loops if possible. Or else, use string method count(). Try to google count() method

**Exercise 8: Print the following pattern**

1

2 2

3 3 3

4 4 4 4

5 5 5 5 5

### ­­Exercise 9: Check Palindrome Number

Write a program to check if the given number is a palindrome number.

A palindrome number is a number that is same after reverse. For example 545, is the palindrome numbers

**Expected Output**:

original number 121

Yes. given number is palindrome number

original number 18581

Yes. given number is palindrome number

original number 125

No. given number is not palindrome number

**Exercise 10: Create a new list from a two list using the following condition**

Given a two list of numbers, write a program to create a new list such that the new list should contain odd numbers from the first list and even numbers from the second list.

**Given**:

list1 = [10, 20, 25, 30, 35]

list2 = [40, 45, 60, 75, 90]

**Expected Output**:

result list: [25, 35, 40, 60, 90]

**Exercise 11: Write a Program to extract each digit from an integer in the reverse order.**

For example, If the given int is **7536**, the output shall be “**6 3 5 7**“, with a space separating the digits.

**Exercise 12: Calculate income tax for the given income by adhering to the below rules**

| **Taxable Income** | **Rate (in %)** |
| --- | --- |
| First $10,000 | 0 |
| Next $10,000 | 10 |
| The remaining | 20 |

**Expected Output**:

For example, suppose the taxable income is 45000 the income tax payable is

10000\*0% + 10000\*10%  + 25000\*20% = $6000.

**Exercise 13: Print multiplication table from 1 to 10**

**Expected Output**:

1 2 3 4 5 6 7 8 9 10

2 4 6 8 10 12 14 16 18 20

3 6 9 12 15 18 21 24 27 30

4 8 12 16 20 24 28 32 36 40

5 10 15 20 25 30 35 40 45 50

6 12 18 24 30 36 42 48 54 60

7 14 21 28 35 42 49 56 63 70

8 16 24 32 40 48 56 64 72 80

9 18 27 36 45 54 63 72 81 90

10 20 30 40 50 60 70 80 90 100

**Exercise 14: Print downward Half-Pyramid Pattern with Star (asterisk)**

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