Python Basic Exercise

Topics: Variables, Operators, Loops, String, Numbers, List

1) *Given two integer numbers return their product. If the product is greater than 1000, then return their sum.*

2) *Given a range of the first 10 numbers, Iterate from the start number to the end number, and In each iteration print the sum of the current number and previous number.*

3)Given a string, display only those characters which are present at an even index number.

For example, `str = "python"` so you should display ‘p’, ‘t’, ‘o’.

4)Given a string and an integer number n, remove characters from a string starting from zero up to n and return a new string

For example, `removeChars("pynative", 4)` so output must be `tive`

5)Given a list of numbers, return True if first and last number of a list is same.

6)Given a list of numbers, Iterate it and print only those numbers which are divisible of 5

7)Return the count of sub-string "Emma" appears in the given string

```
str = "Emma is good developer. Emma is a writer"
```

8)Print the following pattern

```
1

2 2

3 3 3

4 4 4 4

5 5 5 5 5
```

9)Reverse a given number and return true if it is the same as the original number

Expected Output:

```
original number 121
```

```
The original and reverse number is the same



original number 125

The original and reverse number is not same
```

10)Given a two list of numbers create a new list such that new list should contain only odd numbers from the first list and even numbers from the second list

Expected Output:

```
list1 =  [10, 20, 23, 11, 17]

list 2 = [13, 43, 24, 36, 12]



result List is [23, 11, 17, 24, 36, 12]
```

11)Write a code to extract each digit from an integer, in the reverse order

Expected output

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

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 that the taxable income is $45000 the income tax payable is

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

13) Print multiplication table form 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
```

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

```
* * * * *

* * * *

* * *

* *

*
```

15) Write a function called `exponent(base, exp)` that returns an int value of base raises to the power of exp.

Expected output

Case 1:

```
base = 2

exponent = 5

2 raises to the power of 5: 32 i.e. (2 *2 * 2 *2 *2 = 32)
```

Case 2:

```
base = 5
exponent = 4
5 raises to the power of 4 is: 625
i.e. (5 *5 * 5 *5 = 625)
```