## 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
```

**Given** 2:

```
number1 = 40

number2 = 30
```

## 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.

## 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 = "pynative"` so you should display ‘p’, ‘n’, ‘t’, ‘v’.

## 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("pynative", 4)` so output must be `tive`. Here we need to remove first four characters from a string.
- `remove_chars("pynative", 2)` so output must be `native`. 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]
```

## 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

## 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"
```

## 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

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

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]
```

## 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.

Show Solution

## 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 |

## Exercise 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
```

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

```
* * * * *

* * * *

* * *

* *

*
```

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

Note here `exp` is a non-negative integer, and the base is an integer.

**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)
```