List of python exercises

- Using a cycle `for`, write a program which will print:

```
Row 0
Row 1
Row 2
Row 3
Row 4
```

- Write a program, which takes as an input from a user two numbers and one string containing a single sign (`'+'`, `'-'`, `'*'` or `'/'`). Program will compute the result and return.

  Example:

```
First number: 123
Second number: 456
Operator: +
123456 = 579
```

- Write a program, which will ask a user for a number five times and return the lowest one.

- Implement a function that takes as input three variables and returns the largest of the three. Do this without using the Python max() function!

- Write function to convert Roman numerals to number (`int`).

- Write a function, which for an argument number `n` creates and return a dictionary, where keys will be numbers from 1 to `n` and values will be their exponents. Example:

```
>>> exponent (4)
{1: 1, 2: 4, 3: 9, 4: 16}
```

- Write a password generator in Python. Be creative with how you generate passwords - strong passwords have a mix of lowercase letters, uppercase letters, numbers, and symbols. The passwords should be random, generating a new password every time the user asks for a new password.
  Extra:
  Ask the user how strong they want their password to be. For weak passwords, pick a word or two from a list.

- Write a function which given an int array length 2, returns True if it contains a 2 or a 3.

```
has23([2, 5]) → True
has23([4, 3]) → True
has23([4, 5]) → False
```

- Write a program that accepts a hyphen-separated sequence of words as input and prints the words in a hyphen-separated sequence after sorting them alphabetically.

Example: `green-red-yellow-black-white`
Expected Result: `black-green-red-white-yellow`

- Write a program to print the even numbers from a given list.
  Example: `[1, 2, 3, 4, 5, 6, 7, 8, 9]`
  Expected Result: `[2, 4, 6, 8]`

- Write a function to convert temperatures to and from celsius, fahrenheit with a pretty output.

- Write a program to simulate this game:

  First player rolls a die (so random numbers from 1 to 6), until the six is rolled. Then, it is second player's turn, which lasts until he also gets six. Same for third and fourth player. Player who needs most rolls until he gets 6 wins, in case of tie player who rolled first.

  Program should print out all rolls and the winner.

  Hint: Try saving intermediate results about the current winner.

- Print out first n numbers of Fibonacci sequence (1, 1, 2, 3, 5, 8, 13, 21, …).

Advanced exercises + algorithms:

- Write a function to sort a list of elements using the bubble sort algorithm.

- Write a function to sort a list of elements using the quick sort algorithm

- Write a function for binary search.

- Write a function to find the greatest common divisor (gcd) of two integers.

- Write a function to get the factorial of a non-negative integer