Task 1.

Write a PHP script that will check the format of strings.

The script should include a function with one input parameter of type string and not returning a value. The function should display whether the given string "is a valid ISBN" or "is not a valid ISBN" of a book.

The format of the ISBN number is:

ISBN XXX-X-XX-XXXXXX-X, where X is any digit 0 to 9

Write a PHP program that will test the function using an array ($BookISBN) of 10 string elements.

Notes: you can use regular expressions to test whether each element is compliant with the required format

Additional readings about regular expressions and lookaround (lookahead and lookbehind) assertions:

- https://www.regular-expressions.info/quickstart.html
- https://www.regular-expressions.info/lookaround.html
- https://www.php.net/manual/en/regexp.reference.assertions.php
- https://www.regular-expressions.info/refadv.html

Task 2.

Write a PHP script that will test if a given string has the required format of the serial number.

A serial number should include **at least one number**, **at least one lowercase letter**, **at least one uppercase letter**, and **at least one special character** (that is not a letter or number). A serial number **cannot contain spaces** and **should be 6 characters long**.

The script should display a message with the details regarding the structure of the string (serial number) e.g. the serial number is formatted correctly; the serial number is missing a special character, etc.

Notes: you should use regular expressions to test whether the string is compliant with the required format

Task 3.

Design a web site for an imaginary finance company. Use different HTML elements to design the user interface. The user should enter the "Amount of Mortgage", "Interest Rate", as well as "Number of Years".

Write a server-side script that will validate that the user did not leave empty fields, the entered data is in the right format (number), and calculate the "Monthly Payment" using the formula:

$$\text{Monthly Payment} = \text{loan} * \text{rate} / (1-(1/(1+\text{rate})^{\text{PaymentsNumber}}))$$

In the above formula “loan” is the total amount of mortgage, “rate” is the interest rate divided by 12 and “PaymentsNumber” is the result of multiplying “Number of Years” by 12.

After pressing the “Calculate” button, the value of “Monthly Payment” is presented on the web.