Tests with R Markdown

1. Writing functions in Python:

1.1 Defining a function

In Python, a function is defined with the keyword `def` followed by the name from your choice.

Let's see an example below:

```
def hello(name: str) -> str:
    """
        Input: name: str
        Output: str
    """
    return f'hello, {name}'
```

The function above receives a name, of type `str` and returns a string saying "hello".

Let's test this Python function by running:

```
hello('Jonh Doe')
```

```
## 'hello, Jonh Doe'
```

As expected, you can see the output of this function.

1.2 More operations with arguments

In Python we can make operations with the arguments passed to a function. Let's calculate the hypotenuse of a right triangle, given its cathets.

We already know the Pythagorean Theorem:

$$a^2 = b^2 + c^2$$

where a is the hypotenuse. b and c are the two cathets.

Let's apply this formula in python, in a function which receives b and c:

```
# import math library
from math import sqrt

def hypotenuse(b: float, c: float) -> float:
    return sqrt(b**2 + c**2)
```

After this, we can test the function:

```
# import math library
cathet_b = 3
cathet_c = 4

hyp = hypotenuse(cathet_b, cathet_c)
```

```
print(f'The hypotenuse of the triangle is {hyp}')
```

```
## The hypotenuse of the triangle is 5.0
```

As we can see, the result is the correct answer.