EXERCISE 1

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EXERCISE 2

```
# En el siguiente ejercicio se calcula el area de un rectangulo

def rectangle_area(width, height):
    area = width * height
    print(f"The area of a rectangle with width {width} and height {height} is {a
```

EXERCISE 3

```
# El siguiente ejercicio se puede ver un codigo que sirve para probar como funci
rectangle_area(3, 4)
rectangle_area(5, 10)
rectangle_area(8, 2)
```

The are of a rectangle with width 3 and height 4 is 12

The area of a rectangle with width 5 and height 10 is 50

The are of a rectangle with width 8 and height 2 is 16

EXERCISE 5

```
def central_difference(f, x, h):
    derivada_aproximada = (f(x + h) - f(x - h)) / (2 * h)

    return derivada_aproximada


def square(x):
    return x**2
y = square
x = 2
h1 = 0.1
h2 = 0.01
h3 = 0.001

print(f"the derivative of f(x) = x^2 at x = {x} using h = {h1} is {central_diffe
print(f"the derivative of f(x) = x^2 at x = {x} using h = {h2} is {central_diffe
print(f"the derivative of f(x) = x^2 at x = {x} using h = {h3} is {central_diffe
```

the derivative of f(x) = x^2 at x = 2 using h = 0.1 is 4.100000000000001.

the derivative of f(x) = x^2 at x = 2 using h = 0.01 is 4.009999999999891.

the derivative of f(x) = x^2 at x = 2 using h = 0.001 is 4.000999999999699.

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