

CSCA08H Winter 2022 Worksheet: Function Design Recipe

1. Function Design Recipe

Following the Function Design Recipe, write a function that satisfies this description:

This function returns a string containing a given word repeated a given number of times. For example, someone should be able to call the function to repeat "Marcia " three times and the function should return "Marcia Marcia Marcia ", or call the function to repeat "Buffalo " eight times and have it return "Buffalo Buffalo Buffalo Buffalo Buffalo Buffalo Buffalo Buffalo ".

Examples

Header

Description

Body

Test

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2. Function Design Recipe: Type Contract and Description

Consider this code:

```
def number_of_cents(change: float) -> int:
    """
    >>> number_of_cents(1.25)
    25
    >>> number_of_cents(20.00)
    0
    """

    dollars = change // 1           # alternate: dollars = int(change)
    cents = (change - dollars) * 100
    return round(cents)
```

- (a) Add the missing *Type Contract* (parameter and return types) to the function *Header*.

- (b) The description of this function is poor:

The number of cents left when you take away all the dollars from an amount of money.

In the space provided in the docstring, write a better function description.

3. Function Design Recipe

Following the Function Design Recipe, write the following function.

Function name: (parameter types) → return type	Description
calculate_tax: (float, float) → float	The first parameter represents a bill and the second represents a tax rate (a number between 0.0 and 1.0 inclusive). Return the amount of tax to be paid on this bill.