Problem 3: Roman Number to Integer and vice versa

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def roman_to_integer(roman):
    roman_dict = {'I': 1, 'V': 5, 'X': 10, 'L': 50, 'C': 100, 'D': 500, 'M': 1000}
    result = 0
    prev_value = 0

    for char in reversed(roman):
        value = roman_dict[char]
        if value >= prev_value:
            result += value
        else:
            result -= value
        prev_value = value
    return result

def integer_to_roman(num):
    integer_dict = {1000: 'M', 900: 'CM', 500: 'D', 400: 'CD', 100: 'C', 90: 'XC', 50: 'L', 40: 'XL',
                    10: 'X', 9: 'IX', 5: 'V', 4: 'IV', 1: 'I'}
    result = ""

    for value, symbol in integer_dict.items():
        while num >= value:
            result += symbol
            num -= value
    return result

roman_number = "II"
integer_number = 2

converted_integer = roman_to_integer(roman_number)
converted_roman = integer_to_roman(integer_number)

print(f"Roman to Integer: {roman_number} => {converted_integer}")
```

print(f"Integer to Roman: {integer_number} => {converted_roman}")