

Problem 3: Roman Number to Integer and vice versa

```
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 = ""

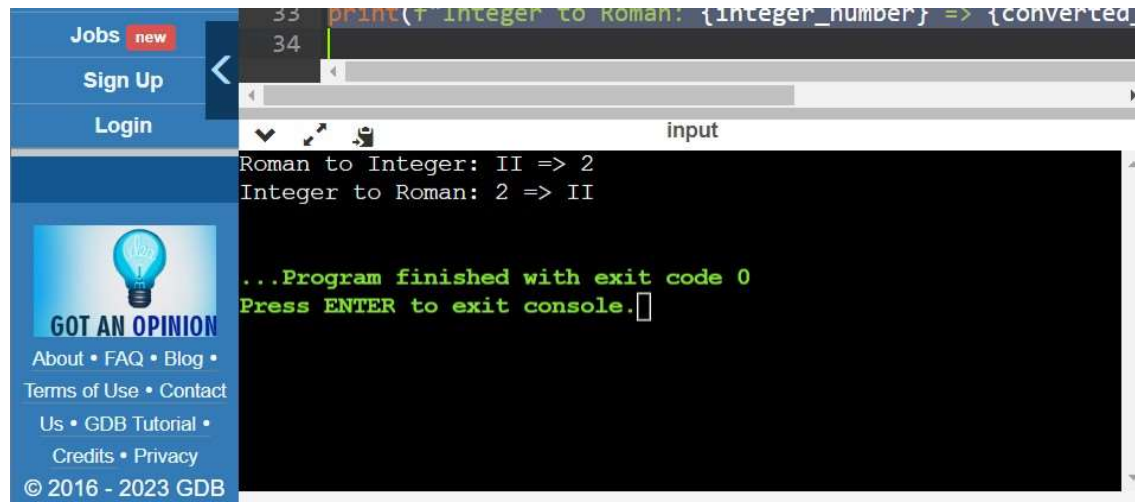
    for value, symbol in integer_dict.items():
        while num >= value:
            result += symbol
            num -= value
    return result

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}")
```



The screenshot shows a web application interface. On the left is a blue sidebar with navigation links: "Jobs" (with a "new" badge), "Sign Up", and "Login". Below these is a section titled "GOT AN OPINION" with a lightbulb icon, followed by links for "About", "FAQ", "Blog", "Terms of Use", "Contact Us", "GDB Tutorial", "Credits", and "Privacy". At the bottom of the sidebar is the copyright notice "© 2016 - 2023 GDB". The main area on the right displays a code editor with line numbers 33 and 34. Line 33 contains the code `print(f"Integer to Roman: {integer_number} => {converted_roman}")`. Below the code editor is a terminal window titled "input" showing the program's execution: "Roman to Integer: II => 2", "Integer to Roman: 2 => II", and a green message "...Program finished with exit code 0". The terminal also prompts "Press ENTER to exit console." with a cursor.