## Live Test

### Congratulations!
You have completed the Live Test.

**Time Taken**
**24:04/45:00 Min**

**Score Earned**
**10**

**Score**
**100%**

## Question

**Overview:**
Write a Python program to generate and display the Fibonacci series based on user input.

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**Note:**
Avoid using AI tools, as it is essential to build skills independently for your long-term career growth.

**Tasks:**
❖ The program should provide the following options:
   ➢ Generate the Fibonacci series up to a specific number of terms.
   ➢ Generate the Fibonacci series up to a specific maximum value.

**Requirements:**
❖ Ask the user for the number of terms they want in the series (e.g., 6)

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❖ Generate and display all Fibonacci numbers less than or equal to the given value.
❖ Use functions to implement the Fibonacci logic. Create at least one function for generating the
series.
❖ Validate the user input:
  ➢ Ensure the number of terms and maximum value are non-negative integers.
❖ Handle cases where the user provides invalid input gracefully.
❖ Display the series in a well-formatted way.

**Sample Input & Output:**

Choose an option:
1. Generate Fibonacci series by number of terms
2. Generate Fibonacci series by maximum value
3. Exit
Enter your choice: 1
Enter the number of terms: 6
Fibonacci series (6 terms): 0, 1, 1, 2, 3, 5
Choose an option:
1. Generate Fibonacci series by number of terms
2. Generate Fibonacci series by maximum value
3. Exit
Enter your choice: 2
Enter the maximum value: 10
Fibonacci series (up to 10): 0, 1, 1, 2, 3, 5, 8
Choose an option:
1. Generate Fibonacci series by number of terms
2. Generate Fibonacci series by maximum value
3. Exit
Enter your choice: 3
Goodluck!

**Submission: Paste your complete project code in the submission text box**

## Your Answer

```
# Live Test 1 - 06-03-2025
# Fibonacci Series
# Author: Francis Rudra D Cruze
# Author Email: francisrudra@gmail.com
# Gloabl Variables
fib_series = []
```

```python
    a, b = 0, 1
    for _ in range(num_terms):
        fib_series.append(a)
        a, b = b, a + b
    return fib_series


def fibonacci_by_max_value(max_value):
    a, b = 0, 1
    while a <= max_value:
        fib_series.append(a)
        a, b = b, a + b
    return fib_series


def main():
    while True:
        print("=====================================")
        print("    Fibonacci Series Generator")
        print("=====================================")

        print("Author: Francis Rudra D Cruze")
        print("Author Email: francisrudra@gmail.com")
        print("Live Test: 1 - 06-03-2025")
        print("=====================================")

        print("\nChoose an option:\n1. Generate Fibonacci series by number of terms\n2. Generate Fibonacci series by maximum value\n3. Exit\n")
        choice = input("Enter your choice: ")
        if choice == '1':
            num_terms = int(input("Enter the number of terms: "))
            if num_terms < 0:
                print("Number of terms should be a non-negative integer.")
                continue
            fib_series = fibonacci_by_terms(num_terms)
            print(f"Fibonacci series ({num_terms} terms): {', '.join(map(str, fib_series))}")
        elif choice == '2':
            max_value = int(input("Enter the maximum value: "))
            if max_value < 0:
                print("Maximum value should be a non-negative integer.")
                continue
```

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```python
        elif choice == '3':
            print("===================================")
            print("\t    Exiting...")
            print("===================================")
            break
        else:
            print("Invalid choice. Please enter a valid option.")
            continue


if __name__ == "__main__":
    main()
```

BACK TO MODULE