Quiz 2 - Tuesday

4 points (+0.5 bonus for an optimized solution)

Oct 8, 2024

Name:

Student Number:

The Tribonacci sequence T_n is defined as follows:

$$T_0 = 0, \quad T_1 = 1, \quad T_2 = 1, \quad \text{and} \quad T_{n+3} = T_n + T_{n+1} + T_{n+2} \quad \text{for} \quad n \geq 0.$$

Given n, **return** the value of T_n.

Example 1:

If $n = 5$, then the output is 7. Explanation:

$$T_3 = 0 + 1 + 1 = 2$$

$$T_4 = 1 + 1 + 2 = 4$$

$$T_5 = 1 + 2 + 4 = 7$$

Example 2:

If $n = 40$, then the output is 12960201916.

Constraints:

- The answer is guaranteed to fit within a **64-bit integer**, i.e., **answer** $\leq 2^{63} - 1$.

IMPORTANT NOTES:

- Write the code for `tribonacci()` and `int main()` testing the function with an example.
- Use a `printf()` within `int main()` to print the returned value from the function.
- Your code must work on any OS.