Discreet Assignment-11.9.1-11

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Problem Statement

Write the first five terms in the sequence:

$$a_1 = 3$$
$$a_n = 3a_{n-1} + 2 \quad \text{for } n > 1$$

Solution

Table 1: Input Parameters: First Term and General Formula

Term	**Value**
a_1	3
General Formula	$a_n = 3a_{n-1} + 2$ for $n > 1$

$$a_1 = 3$$
$$a_n = 3a_{n-1} + 2 \quad \text{for } n > 1$$

Let's find the next 5 terms of the sequence:

$$a_2 = 3a_1 + 2 = 3 \times 3 + 2 = 11$$
$$a_3 = 3a_2 + 2 = 3 \times 11 + 2 = 35$$
$$a_4 = 3a_3 + 2 = 3 \times 35 + 2 = 107$$
$$a_5 = 3a_4 + 2 = 3 \times 107 + 2 = 323$$
$$a_6 = 3a_5 + 2 = 3 \times 323 + 2 = 971$$

So, the next 5 terms of the sequence are $11, 35, 107, 323, 971$.