

# Discrete 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
$a_n$	$3a_{n-1} + 2$ for $n > 1$

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

$$a_2 = 3a_1 + 2 = 3 \times 3 + 2 = 11 \quad (1)$$

$$a_3 = 3a_2 + 2 = 3 \times 11 + 2 = 35 \quad (2)$$

$$a_4 = 3a_3 + 2 = 3 \times 35 + 2 = 107 \quad (3)$$

$$a_5 = 3a_4 + 2 = 3 \times 107 + 2 = 323 \quad (4)$$

$$a_6 = 3a_5 + 2 = 3 \times 323 + 2 = 971 \quad (5)$$

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