

11.14-4

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QUESTION: The 17th term of ap exceeds its 10th term by 7. Find its common difference?

Solution:

$$x(n) = \{x(0) + nd\}u(n) \quad (1)$$

$$x(17) - x(10) = 7 \quad (2)$$

$$\Rightarrow x(0) + 17d - x(0) + 10d = 7 \quad (3)$$

$$\Rightarrow 17d - 10d = 7 \quad (4)$$

$$\Rightarrow 7d = 7 \quad (5)$$

$$\Rightarrow d = 1 \quad (6)$$

Variable	Description	Value
$x(n)$	n^{th} term of AP	none
d	common difference between the terms of AP	none
$x(17) - x(10)$	difference of 17 th and 10 th term of X	7

TABLE 0
INPUT PARAMETERS

Let

$$x(n) = \{101, 102, 103, \dots\} \quad (7)$$

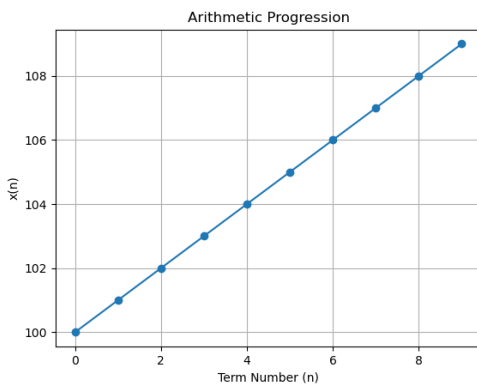


Fig. 0. $x(n)$