

# 11.14-4

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

**Solution:**

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

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

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

$$\Rightarrow d = 1 \quad (4)$$

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

TABLE 0  
INPUT PARAMETERS

Let

$$x(n) = (100 + n)u(n) \quad (5)$$

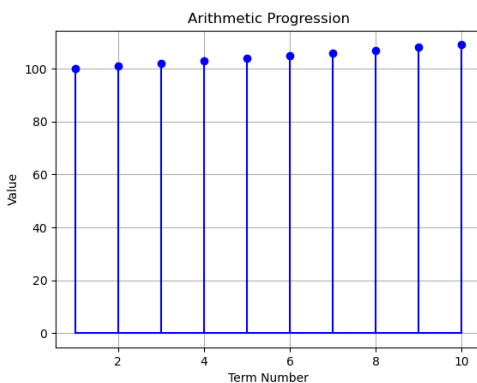


Fig. 0.  $x(n)$