

The lowest and highest three digit numbers are 101 and 998, which remainder when divided by 3.

$\therefore$  A.P is 101, 104, 107, ..... 998

First term  $a = 101$

Difference  $d = 3$

$n^{\text{th}}$  term  $a_n = 998$

$n^{\text{th}}$  term of an AP is given by

$$a_n = a + (n-1)d$$

$$\Rightarrow 998 = 101 + (n-1)3$$

$$= (n-1)3 = 998 - 101$$

$$n - 1 = \frac{897}{3} = 299$$

$$n = 299 + 1 = 300$$

Sum to the  $n^{\text{th}}$  term in AP is given by

$$S = \frac{n}{2} (1^{\text{st}} \text{ term} + \text{last term})$$

$$\Rightarrow \frac{300}{2} (101 + 998) = 150 \times 1099 = 164850$$