

$$1, 0, 1, 2, \dots \quad 1 + 0, 1 + 1, 1 + 2, \dots$$

$$n^2 + \frac{n(n-1)}{2} \quad t_{10} = 100 + \frac{1 \times 9}{2} = 145$$

$$0, 1, 1^2$$

$$t_n = \frac{n(n-1)}{2} \quad t_n = \frac{n(n-1)}{2} = 0 \rightarrow n(n-1) = 0 \rightarrow \boxed{n=11}$$

$$0, 1, 1^2$$

$$t_n = f_{n+1}$$

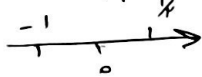
$$t_{11} = f_{11} + 1 = 145$$

$$t_n = f_{n+1} + n(n-1) = 110 - 1$$

$$t_{11} = 11 \times 11 - 1 = 120$$

$$145 + 110 = 255$$

$$a_n = \frac{(-1)^n}{n} \quad \frac{1}{n} - (-1) = \frac{1}{n}$$



$$(-1)^k - 1 = -2k + 2$$

$$-1 - 1 - 2 = -4 \quad \forall k \geq 1$$

$$t_{11} - t_{10} = 1 \quad t_{11} + 9d - t_{10} - 9d = 1 \rightarrow d = 1$$

$$\frac{1}{n} = k = d \quad t_4 - t_1 = 9 = n \quad \frac{1}{d} = k \rightarrow \boxed{n=9}$$

$$t_{11} + 9d - t_{10} = 9d = 9 \times 1 = 9$$

$$a_1 = 1 \quad 18 - 1 = 17 \quad \frac{1}{n} = 1 = d$$

$$a_2 = 18$$

$$a_n = t_{n-1} \rightarrow a_{11} = 1 \quad a_{12} = 1$$

$$\boxed{b_n = n - 1}$$

$$t_n = \frac{f_{n-1}}{n+1} \quad \frac{f_{n-1}}{n+1} < \frac{1}{n} \rightarrow n-1 < n+1 \quad n < 1 \quad n = 1$$

$$n < \frac{1}{n} = 1 \rightarrow n \leq 1 \rightarrow n = 1$$

$$t_n = A n^2 + B n$$

$$1A + 8B = -18 + 16 \times 8 = 128$$

$$t_1 = A + B = 1 \quad 1A + 1B = 1$$

$$t_2 = 4A + 2B = 4$$

$$4 - 1 = 3 = 3A \Rightarrow A = 1, B = 0$$

$$-1, -1, 0 \quad 1A \Rightarrow a_2 = 1$$

$$t_n = n^2 - n - 1$$

$$a_1 = 1$$

$$\sum 1 - 1 = 0 \rightarrow \frac{1}{n} = a = d$$

$$a_2 = 1$$

$$a_n = an + 1$$

$$n^2 - n - 1 = 0 \Rightarrow n = 1$$

$$n^2 - 4n - 1 = 0$$

$$(n-1)(n+1) = 0 \quad n = 1 \rightarrow \boxed{11}$$