

حل تمرین «برنامه سازی پیشرفته»

۲. رقم آخر شماره همراه ← 3518

$$2^{11} \times 2^{10} \times 2^9 \times 2^8 \times 2^7 \times 2^6 \times 2^5 \times 2^4 \times 2^3 \times 2^2 \times 2^1 \times 2^0$$

میانگ 2 ←

(2048, 1024, 512, 256, 128, 64, 32, 16, 8, 4, 2, 1)

1 1 0 1 1 0 1 1 1 1 1 0

$$\begin{array}{r} 3518 \\ - 2048 \\ \hline \end{array}$$

$$\begin{array}{r} 1470 \\ - 1024 \\ \hline \end{array}$$

$$\begin{array}{r} 446 \\ - 256 \\ \hline \end{array}$$

$$\begin{array}{r} 190 \\ - 128 \\ \hline \end{array}$$

$$\begin{array}{r} 62 \\ - 32 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ - 16 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \end{array}$$

$$(10^3 + 10^2 + 10^1 + 10^0)$$

3 5 1 8

$$3000 + 500 + 10 + 8 = 3518$$

$$(10^3 + 10^2 + 10^1 + 10^0)$$

(1000, 100, 10, 1)

3 5 1 8

$$3000 + 500 + 10 + 8 = 3518$$

۴ رقم آفریننده دانشجوی ۷۰۲۲

۲ بیت

$$\begin{matrix} 2^{12} & 2^{11} & 2^{10} & 2^9 & 2^8 & 2^7 & 2^6 & 2^5 & 2^4 & 2^3 & 2^2 & 2^1 & 2^0 \\ \left(\begin{array}{cccccccccccc} 4096 & 2048 & 1024 & 512 & 256 & 128 & 64 & 32 & 16 & 8 & 4 & 2 & 1 \end{array} \right) \\ \left(\begin{array}{cccccccccccc} 1 & 1 & 0 & 1 & 1 & 0 & 1 & 1 & 0 & 1 & 1 & 1 & 0 \end{array} \right) \end{matrix}$$

7022

$$\begin{array}{r} 7022 \\ - 4096 \\ \hline \end{array}$$

2926

$$\begin{array}{r} 2926 \\ - 2048 \\ \hline \end{array}$$

878

$$\begin{array}{r} 878 \\ - 512 \\ \hline \end{array}$$

366

$$\begin{array}{r} 366 \\ - 256 \\ \hline \end{array}$$

110

$$\begin{array}{r} 110 \\ - 64 \\ \hline \end{array}$$

46

$$\begin{array}{r} 46 \\ - 32 \\ \hline \end{array}$$

14

$$\begin{array}{r} 14 \\ - 8 \\ \hline \end{array}$$

6

$$\begin{array}{r} 6 \\ - 4 \\ \hline \end{array}$$

2

$$\begin{array}{r} 2 \\ - 2 \\ \hline \end{array}$$

0

۱۰ بیت

$$\begin{matrix} 10^3 & 10^2 & 10^1 & 10^0 \\ \left(\begin{array}{cccc} 1000 & 100 & 10 & 1 \end{array} \right) \end{matrix}$$

7 0 2 2

$$7000 + 0 + 20 + 2 =$$

7022

25 ميا

رقم 5 فريال قولد 6 ميا $\leftarrow 8406$

$$\left(2^{13}, 2^{12}, 2^{11}, 2^{10}, 2^9, 2^8, 2^7, 2^6, 2^5, 2^4, 2^3, 2^2, 2^1, 2^0 \right)$$

$$(8192, 4096, 2048, 1024, 512, 256, 128, 64, 32, 16, 8, 4, 2, 1)$$

$$1 \ 0 \ 0 \ 0 \ 0 \ 0 \ 0 \ 1 \ 1 \ 0 \ 1 \ 0 \ 1 \ 1 \ 0$$

8406

- 8192

214

- 128

86

- 64

22

- 16

6

- 4

2

- 2

0

$$\left(10^3, 10^2, 10^1, 10^0 \right)$$

$$(1000, 100, 10, 1)$$

$$8 \ 4 \ 0 \ 6$$

10 ميا \leftarrow

~~8000~~

$$8000 + 400 + 0 + 6$$

8406