

- ① Convert the following number from base 10 to 16

$$(2020)_{10}$$

② $(2020)_{10} \rightarrow (7E4)_{16}$

$$\begin{array}{r} 16 \overline{) 2020} \\ 16 \overline{) 126} - 4 \\ 7 - 14 \end{array}$$

$$\Rightarrow (7E4)_{16}$$

③ $(2020.65625)_{10} \rightarrow ()_{16}$

$$\begin{array}{r} 16 \overline{) 2020} \\ 16 \overline{) 126} - 4 \\ 7 - 14 \\ 7E \end{array} \quad \begin{array}{l} 0.65625 \times 16 = 10.5 \\ 0.5 \times 16 = 8 \\ A8 \end{array}$$

$$\Rightarrow (7EA8)_{16}$$

④ $(172)_{10} \rightarrow ()_{16}$

$$\begin{array}{r} 16 \overline{) 172} \\ 16 \overline{) 10} - 12 \end{array}$$

$$\Rightarrow (AC)_{16}$$

⑤ $(172.983)_{10} \rightarrow ()_{16}$

$$\begin{array}{r} 16 \overline{) 172} \\ 16 \overline{) 10} - 12 \\ (AC) \end{array} \quad \begin{array}{l} 0.983 \times 16 = 15.728 \\ 0.728 \times 16 = 11.648 \\ 0.2 \times 16 = 3.2 \end{array}$$

$$\Rightarrow (AC.FB)_{16}$$

⑥ $(49)_{10} \rightarrow ()_{16}$

$$\begin{array}{r} 16 \overline{) 49} \\ 16 \overline{) 3} - 1 \end{array}$$

$$\Rightarrow (31)_{16}$$

⑦ $(122810)_{10} \rightarrow ()_{16}$

$$\begin{array}{r} 16 \overline{) 122810} \\ 16 \overline{) 7675} - 10 \\ 16 \overline{) 479} - 11 \\ 16 \overline{) 29} - 15 \end{array}$$

$$\rightarrow (1DFBA)_{16}$$

$$i) (60010)_{10} \rightarrow ()_{16}$$

$$\begin{array}{r} 16 \overline{) 60010} \\ 16 \overline{) 3750} \quad -10 \\ 16 \overline{) 234} \quad -6 \\ 14 \quad -10 \end{array}$$

$$\Rightarrow (EACA)_{16}$$

$$ii) (1542)_{10} \rightarrow ()_{16}$$

$$\begin{array}{r} 16 \overline{) 1542} \\ 16 \overline{) 96} \quad -6 \\ 6 \quad -0 \end{array}$$

$$\Rightarrow (606)_{16}$$

decimal to hexadecimal

$$iii) (175)_{10} \rightarrow ()_{16}$$

$$\begin{array}{r} 16 \overline{) 175} \\ 16 \overline{) 10} \quad -15 \end{array}$$

$$\Rightarrow (AF)_{16}$$

$$\begin{array}{r} 16 \overline{) 105} \\ 16 \overline{) 6} \quad -9 \end{array}$$

$$\Rightarrow (69)_{16}$$

$$iv) (450)_{10} \rightarrow ()_{16}$$

$$\begin{array}{r} 16 \overline{) 450} \\ 16 \overline{) 28} \quad -2 \\ 1 \quad -12 \end{array}$$

$$\Rightarrow (1C2)_{16}$$

$$v) (199)_{10} \rightarrow ()_{16}$$

$$\begin{array}{r} 16 \overline{) 199} \\ 16 \overline{) 12} \quad -7 \\ C \end{array}$$

$$\Rightarrow (C7)_{16}$$

$$vi) (3000)_{10} \rightarrow ()_{16}$$

$$\begin{array}{r} 16 \overline{) 3000} \\ 16 \overline{) 187} \quad -8 \\ 11 \quad -11 \end{array}$$

$$\Rightarrow (BB8)_{16}$$

$$(13) \text{ convert Base}_{10} \text{ to Base}_8$$

$$\begin{array}{r} 8 \overline{) 1032} \\ 8 \overline{) 129} \quad -0 \\ 8 \overline{) 16} \quad -1 \\ 2 \quad -0 \end{array}$$

$$\Rightarrow (2010)_8$$

$$(14) (1032.6875)_{10} \rightarrow ()_8$$

$$(15) (172)_{10} \rightarrow ()_8$$

$$\begin{array}{r} 8 \overline{) 1032} \\ 8 \overline{) 129} \quad -0 \\ 8 \overline{) 16} \quad -1 \\ 2 \quad -0 \end{array}$$

$$\begin{array}{l} 0.6875 \times 8 = 5.4 \\ 0.5 \times 8 = 4 \\ 54 \end{array}$$

$$\Rightarrow (2010.54)_8$$

$$\begin{array}{r} 8 \overline{) 172} \\ 8 \overline{) 21} \quad -4 \\ 2 \quad -5 \end{array}$$

$$\Rightarrow (172)_{10} \rightarrow (254)_8$$

$$(16) (172.878)_{10} \rightarrow ()_8$$

$$(17) (127)_{10} \rightarrow ()_8$$

$$\begin{array}{r} 8 \overline{) 172} \\ 8 \overline{) 21} \quad -4 \\ 2 \quad -5 \end{array}$$

$$0.878 \times 8 = 7.0$$

$$\Rightarrow (254.7)_8$$

$$\begin{array}{r} 8 \overline{) 127} \\ 8 \overline{) 15} \quad -7 \\ 1 \quad -7 \end{array}$$

$$\Rightarrow (177)_8$$

IP address Identification:

(1) 10.250.1.1 \rightarrow Belongs to Class A

(2) 193.42.1.1 \rightarrow Belongs to Class B

(3) 249.240.80.78 \rightarrow Belongs to Class E

(4) 215.45.45.0 \rightarrow Belongs to Class C

(5) 33.0.0.0 \rightarrow Belongs to Class A

(6) 158.98.80.0 \rightarrow Belongs to Class B