

```

public static int decimalAddition(int n, int m) {
    int ans = 0, pow = 1, carry = 0;

    while (n != 0 || m != 0 || carry != 0) {
        int sum = carry + n % 10 + m % 10;
        n /= 10;
        m /= 10;
        carry = sum / 10;
        sum %= 10;

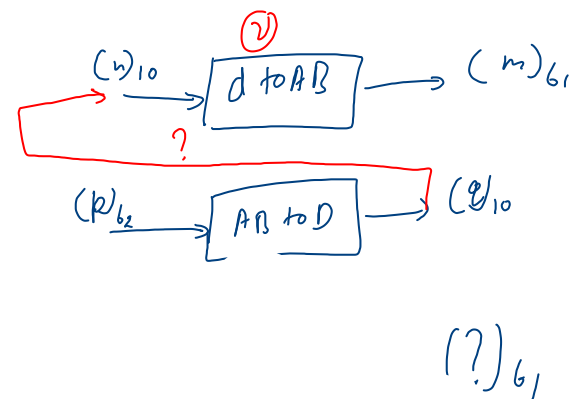
        ans += sum * pow;
        pow *= 10;
    }

    return ans;
}

```

$$\begin{array}{r} 11101 \\ 01110 \\ \hline 101011 \end{array}$$

$(0, 9876, 983) \rightarrow (0+6+9) = 9$
 \downarrow
 $(0, 987, 98) \rightarrow (0+7+8) = 15 \div 10 = 5$
 \downarrow
 $(1, 98, 9) \rightarrow (1+8+9) = 18 \div 10 = 8$
 \downarrow
 $(1, 9, 9) \rightarrow (1+9+9) = 19 \div 10 = 9$
 \downarrow
 $(1, 0, 9) \rightarrow (1+0+9) = 10 \div 10 = 1$
 \downarrow
 $(0, 0, 0)$



$$\begin{array}{r} 1 \quad 1 \quad 1 \\ 9 \quad 8 \quad 7 \quad 6 \\ 9 \quad 8 \quad 7 \\ \hline 1 \quad 0 \quad 8 \quad 5 \quad 9 \end{array}$$

$h: 994543234$
 $d: 4$

$$\begin{array}{l} 994543234, 4 \\ \downarrow \\ 99454323, 3 \\ \downarrow \\ 9945432, 2 \\ \downarrow \\ 994543, 3 \\ \downarrow \\ 99454, 4 \\ \downarrow \\ 9945, 5 \end{array}$$

$$\begin{array}{l} 10 \rightarrow 1010 \\ 5 \rightarrow 101 \\ 9 \rightarrow 10 \\ 3 \rightarrow 11 \end{array}$$

$$\begin{array}{l} 0000 \\ 0001 \\ 0002 \\ 0003 \\ 0004 \\ 0005 \\ 0006 \\ 0007 \\ 0008 \\ 0009 \\ 0010 \\ 0011 \\ 0012 \\ 0013 \\ 0014 \\ 0015 \\ 0016 \\ 0017 \\ 0018 \\ 0019 \\ 0020 \\ \vdots \\ 0029 \\ 0030 \\ 0031 \\ 0032 \\ 0033 \\ 0034 \\ 0035 \\ 0036 \\ 0037 \\ 0038 \\ 0039 \\ 0040 \\ \vdots \\ 0099 \\ 0100 \\ 0101 \\ 0102 \\ \vdots \end{array}$$

$$\begin{array}{l} 0000 \\ 0001 \\ 0002 \\ 0003 \\ 0004 \\ 0005 \\ 0006 \\ 0007 \\ 0008 \\ 0009 \\ 0010 \\ 0011 \\ 0012 \\ 0013 \\ 0014 \\ 0015 \\ 0016 \\ 0017 \\ 0018 \\ 0019 \\ 0020 \\ \vdots \\ 0029 \\ 0030 \\ 0031 \\ 0032 \\ 0033 \\ 0034 \\ 0035 \\ 0036 \\ 0037 \\ 0038 \\ 0039 \\ 0040 \\ \vdots \\ 0099 \\ 0100 \\ 0101 \\ 0102 \\ \vdots \end{array}$$

$7 \times 8^1 + 1 \times 8^0 = 57$
 $(57)_{10} = (71)_8$

$$\begin{array}{r|l} 10 & 71 \\ \hline 10 & 7 - 1 \times 8^0 \\ \hline 10 & 0 - 7 \times 8^1 \end{array}$$

$(n)_{10} \rightarrow (11100)_2$

$$\begin{array}{r|l} 2 & 57 \\ \hline 2 & 28 - 1 \times 1 \\ \hline 2 & 14 - 0 \times 10 \\ \hline 2 & 7 - 0 \times 10^2 \\ \hline 2 & 3 - 1 \times 10^1 \\ \hline 2 & 1 - 1 \times 10^0 \\ \hline 2 & 0 - 1 \times 10^5 \end{array}$$

$$\begin{array}{l} 111001 \\ 54, 2, 0 \end{array} = 1 \times 2^5 + 1 \times 2^7 + 1 \times 2^2 + 0 \times 2^3 + 0 \times 2^1 + 1 \times 2^0$$

$$\begin{array}{r|l} 10 & 111001 \\ \hline 10 & 11100 - 1 \times 2^5 \\ \hline 10 & 1110 - 0 \times 2^1 \\ \hline 10 & 111 - 0 \times 2^2 \\ \hline 10 & 11 - 1 \times 2^1 \\ \hline 10 & 1 - 1 \times 2^0 \\ \hline 10 & 0 - 1 \times 2^5 \end{array}$$

$$\begin{array}{l} 2 (n)_{10} \rightarrow (?)_6 \\ 2 (m)_6 \rightarrow (?)_{10} \end{array}$$