



Addition of Hexadecimal Numbers

$1+1 = 2$
 $1+2 = 3$
 $1+3 = 2+2 = 4$
 $1+4 = 2+3 = 5$
 $1+5 = 2+4 = 3+3 = 6$
 $1+6 = 2+5 = 3+4 = 7$
 $1+7 = 2+6 = 3+5 = 4+4 = 8$
 $1+8 = 2+7 = 3+6 = 4+5 = 9$
 $1+9 = 2+8 = 3+7 = 4+6 = 5+5 = A$
 $1+A = 2+9 = 3+8 = 4+7 = 5+6 = B$
 $1+B = 2+A = 3+9 = 4+8 = 5+7 = 6+6 = C$
 $1+C = 2+B = 3+A = 4+9 = 5+8 = 6+7 = D$
 $1+D = 2+C = 3+B = 4+A = 5+9 = 6+8 = 7+7 = E$
 $1+E = 2+D = 3+C = 4+B = 5+A = 6+9 = 7+8 = F$
 $1+F = 2+E = 3+D = 4+C = 5+B = 6+A = 7+9 = 8+8 = 10$
 $2+F = 3+E = 4+D = 5+C = 6+B = 7+A = 8+9 = 11$
 $3+F = 4+E = 5+D = 6+C = 7+B = 8+A = 9+9 = 12$
 $4+F = 5+E = 6+D = 7+C = 8+B = 9+A = 13$
 $5+F = 6+E = 7+D = 8+C = 9+B = A+A = 14$
 $6+F = 7+E = 8+D = 9+C = A+B = 15$
 $7+F = 8+E = 9+D = A+C = B+B = 16$
 $8+F = 9+E = A+D = B+C = 17$
 $9+F = A+E = B+D = C+C = 18$
 $A+F = B+E = C+D = 19$
 $B+F = C+E = D+D = 1A$
 $C+F = D+E = 1B$
 $D+F = E+E = 1C$
 $E+F = 1D$
 $F+F = 1E$

Ok, now to do addition, you do it just like normal addition. Line the numbers up, start by adding the one's digit and carry the 1 if there is one.

E.g.

```

  18FAB
+ 5CDAA
-----

```

First, add the one's digit: $B+A = 15$, so I carry the 1:

$$\begin{array}{r}
 1 \\
 182AB \\
 + 5FDAA \\
 \hline
 5
 \end{array}$$

Now, add the ten's digit: $A+A = 14$, plus the 1 I carried = 15.
Remember to carry the 1 again:

$$\begin{array}{r}
 11 \\
 182AB \\
 + 5FCAA \\
 \hline
 55
 \end{array}$$

Now, add the hundred's digit: $2+C = E$, plus the 1 I carried = F:

$$\begin{array}{r}
 11 \\
 182AB \\
 + 5FCAA \\
 \hline
 F55
 \end{array}$$

Now, add the thousands digit: $8+F = 17$, carry the 1:

$$\begin{array}{r}
 1\ 11 \\
 182AB \\
 + 5FCAA \\
 \hline
 7F55
 \end{array}$$

Now, add the last digit: $1+5 = 6$, plus the 1 I carried = 7:

$$\begin{array}{r}
 1\ 11 \\
 182AB \\
 + 5FCAA \\
 \hline
 77F55
 \end{array}$$

So:

$$182AB + 5FCAA = 77F55$$

[Research Assistant](#)

EDMOND NURELLARI

Office No.EE240

Office Phone: +90 392 630 1093

E-Mail: edmond.nurellari@cc.emu.edu.tr