

AAA (ASCII adjust after addition).

1) Case: AL = 57..

* lower nibble of AL = 7 < 9.

so upper nibble of AL will be 0H.

no change of lower nibble of all AL.

so AL = 07..

2) Case: AL = 5A.

lower nibble of AL = A(10) > 9.

so A + 6

AL = 1010 + 0110 DCA (BCD).

AL = 10000 in binary

AL = 10H.

higher nibble of AL will be 0.

lower nibble of AL will be unchanged.

so AL = 00h.

AH = 00h previously.

AH after AAA (00+1) h.
= 01h.

so AX = AH : AL.

= 0100h.

3) Case :

sub AH, AH = 0h.

ascii addition:

$$\text{AL} \equiv '6' + '7'$$

$$= 36h + 37h.$$

$$\equiv 6Dh.$$

lower nibble of AL is D > 9
 (13) .

$$\text{AL} \equiv 13 + 6$$

$$= 1101 + 0110$$

$$\begin{array}{r} 1101 \\ 0110 \\ \hline 1001 \end{array}$$

$$\equiv 13h.$$

lower upper nibble of AL will be 0h.

lower nibble of AL will be unchanged.

$$\text{AL} = 03h.$$

$$\begin{aligned} '0' &= 30H \\ '1' &= 31H \end{aligned}$$

$$\text{AH} = 01$$

$$'2' = 32H.$$

$$\text{AX} = 0103h.$$

$$'3' = 33H.$$

$$'4' = 34H$$

$$'5' = 35H$$

$$'6' = 36H$$

$$'7' = 37H$$

$$AX = 0103H$$

$$'0' = 30H$$

$$'1' = 31H$$

$$'0' = 30H$$

$$'3' = 33H$$

$$AX = 3133H \text{ or}$$

$$AX = 3030H$$

$$2 + 8L = JA$$

$$0110 + 1011 =$$

$$1011 + 0110 =$$

$$1101 + 0110 = JA$$

$$1101 + 0110 = JA$$

$$1001 + 0110 = JA$$

$$1001 + 0110 = JA$$