

Mapping Algorithms

CP/M

$$t = n \text{ DIV } 26$$

$$s_0 = 1 \text{ if } n \text{ MOD } 26 \leq 12$$

$$s_0 = 2 \text{ if } n \text{ MOD } 26 > 12$$

~~$$s = ((n \text{ MOD } 26) * 6) \text{ MOD } 26 + s_0$$~~

$$s = (((n \text{ MOD } 26) * 6) + s_0 - 1) \text{ MOD } 26 + 1$$

UCSD

$$t = n \text{ DIV } 26$$

$$adj = 1 \text{ if } n \text{ MOD } 26 \leq 12$$

$$adj = 2 \text{ if } n \text{ MOD } 26 > 12$$

$$s_0 = (\overset{+}{\cancel{(n \text{ MOD } 26)}} * 6) + adj \quad (t * 6) \text{ MOD } 26 + adj$$

~~$$s = ((n \text{ MOD } 26) * 2) \text{ MOD } 26 + s_0$$~~

$$s = (((\cancel{n} \text{ MOD } 26) * 2) + s_0 - 1) \text{ MOD } 26 + 1$$

Optimized

$$n_1 = n \text{ DIV } 4$$

$$t = n_1 \text{ DIV } 26$$

$$adj = 1 \text{ if } n \text{ MOD } 26 \leq 12$$

$$adj = 2 \text{ if } n \text{ MOD } 26 > 12$$

$$s_0 = \cancel{t * 2} + adj \quad (t * 2) \text{ MOD } 26 + adj$$

~~$$s = ((n \text{ MOD } 26) * 2) \text{ MOD } 26 + s_0$$~~

$$s = (((n \text{ MOD } 26) * 2) + s_0 - 1) \text{ MOD } 26 + 1$$