

void VarintEncoding(unsigned int x, unsigned char \*buf) {

int num\_bits\_in\_int = 8 \* sizeof(int); // 32

int i\_x\_iter\_max = ceiling(num\_bits\_in\_int / 7); // ceiling(4.5) == 5

int i\_buf\_highest\_order = 0;

int i\_buf\_out = 0;

int i\_x\_iter = 0;

for (int i\_x\_iter = 0 ; i\_x\_iter < i\_x\_iter\_max ; i\_x\_iter++) {

int x\_sub\_curr = (x >> (i\_x\_iter\*7)) & 127;

int x\_sub\_rest = (x >> (i\_x\_iter\*7));

// break condition

if (x\_sub\_rest == 0) break;

buf[i\_buf\_out] = x\_sub\_curr | (i\_buf\_highest\_order << 7);

i\_buf\_highest\_order = i\_buf\_highest\_order == 0 ? 1 : 0;

}