汇编语言 作业2

2.61 `!~x || !x || !~(x | 0x00FFFFFF) || !(x & 0x000000FF)`

2.63
```
unsigned srl(unsigned x, int k)
{
    unsigned xsra = (int) x >> k;
    int rest_bit =
    int w = 8 * sizeof(int);
    int rest_bit = w - k;
    unsigned b = ~((~0) << rest_bit);
    return xsra & b;
}

int sra(int x, int k)
{
    int xsrl = (unsigned) x >> k;
    int w = sizeof(int) * 8;
    int rest_bit = w - k;
    int msb = !(!((1 << (w-1)) & x));
    int b = ~((~0) + msb) << rest_bit;
    return xsrl | b;
}
```

2.65
```
int odd_ones(unsigned x)
{
    x ^= x >> 16;
    x ^= x >> 8;
    x ^= x >> 4;
    x ^= x >> 2;
    x ^= x >> 1;
    x &= 0x01;
    return x;
}
```

2.71 A. word是unsigned类型，会进行无符号扩展，但要求返回的是int类型

B.
```
int xbyte(pack_t word, int bytenum)
{
    return (int)(word << ((3 - bytenum) << 3)) >> 24;
}
```

2.72 A. maxbytes是int型，而sizeof(val)是unsigned型，计算时会强制转化为unsigned型，使得运算结果恒大于等于0，条件恒满足

B.
```
void copy_int(int val, void *buf, int maxbytes)
{
    if(maxbytes - (int)sizeof(val) >= 0)
        memcpy(buf, (void*) &val, sizeof(val));
}
```

2.77. A. (x<<4) + x

B. x - x<<3

C. x<<6 - x<<2

D. x<<4 - x<<7

2.87.

	Hex	M	E	V	D
-0	0x8000	0	-14	-0	-0.0
最小的>2的值	0x4001	$\frac{1025}{1024}$	1	1025×2^{-9}	2.001953
512	0x6000	1	9	512	512.0
最大的非规格化数	0x03FF	$\frac{1023}{1024}$	-14	1023×2^{-24}	0.000061
$-\infty$	0xFC00	—	—	$-\infty$	$-\infty$
十六进制表示为3BB0的数	3BB0	$\frac{123}{64}$	-1	123×2^{-7}	0.960938

2.90.

```
if ( x < -149 ) {
    exp = 0 ;
    frac = 0 ;
} else if ( x < -126 ) {
    exp = 0 ;
    frac = 1<<(x+149);
} else if ( x < 128 ) {
    exp = x+127;
    frac = 0 ;
} else {
    exp = 255 ;
    frac = 0 ;
}
```