3.13

```
cmpl  %esi, %edi
setl  %al

int compare(int a, int b)
  return a > b;
```

3.15

```
//A
4003fa: 74 02       je 4003fe
4003fc: ff d0       callq *%rax

//B
40042f: 74 f4       je 40042b
400431: 5d          pop %rbp
```

3.16

```
void cond(long a, long b) {
  if(p && a > *p)
    *p = a;
}

//transform
void cond(long a, long b) {
  if(!p)
    goto L1;
  else if(a <= *p)
    goto L1;
  *p = a;
  L1:
    return;
}
```

3.18

```
long test(long x, long y, long z) {
  long val = x + y;
  if(val += z < -3) {
    if(y < z) {
      val = x * y;
    }
    else {
      val = y * z;
    }
  }
  else if(x > 2) {
    val = x * z;
```

```
    }
    return val;
}
```

3.19

$$T_{ave}(p) = T_{ok} + p \cdot T_p$$
$$T_p = \frac{T_{ave} - T_{ok}}{p}$$

3.21

```
#define OP /

long arith(long x) {
//for negative number a bias of (8 - 1) is needed
    return x OP 8
}
```

3.24

```
long loop_while(long a, long b) {
    long result = 1;
    while(a > b) {
        result = (a + b) * result;
        a = a + 1;
    }
    return result;
}
```