Before and After Compilation

Before:

```
10 A = 3
20 X = 1
30 print X
40 X = X + 1
50 IF X <> A THEN GOTO 30
60 PRINT “DONE”
```

```
int limit = 3;
int val = 1;
repeat
{   console.write(val);
    ++val;
} until (val == limit)
console.write(“DONE”);
```

During: Intermediate Representation (6502a Assembly. Ms-IL and Java bytecodes are similar.)

```
lda $#3
sta $0041
lda $#1
sta $0040
loop ldy $0040
ldx #$01
sys
inc $0040
ldx $0040
cpx $0041
bne loop
 lda#$44
sta $0042
 lda#$4F
sta $0043
 lda#$4E
sta $0044
 lda#$45
sta $0045
 lda#$00
sta $0046
ldx #$02
ldy #$42
sys
bne loop
brk
```

After:

```
A9 03 8D 41 00 A9 01 8D 40 00 AC 40 00 A2 01 FF EE 40 00 AE 40 00 EC 41 00 D0
EF A9 44 8D 42 00 A9 4F 8D 43 00 A9 4E 8D 44 00 A9 45 8D 45 00 A9 00 8D 46 00
A2 02 A0 42 FF 00
```