

# 编译原理第九次理论作业

## 18340052 何泽

### Exercise 9.1

What is the translation result of input token string:  $x := A[y, z]$ ?

- Tips: use the translation scheme for Pascal.

(DBv1, pp.486)

我用了书上的条件：A为 $10 \times 20$ 的数组，翻译结果为：

```
t1 = y * 20
t1 = t1 + z
t2 = c      (常数c = baseA - 84)
t3 = 4 * t1
t4 = t2[t3]
x = t4
```

### Exercise 9.2

What is the translation result of input token string:  $c + a[i][j]$ ?

- Tips: use the translation scheme for C/C++.

(DBv2, pp.385)

```
t1 = i * 12
t2 = j * 4
t3 = t1 + t2
t4 = a[t3]
t5 = c + t4
```

### Exercise 9.3

What is the translation result of input token string: **x < 100 | | x > 200 && x != y?**

- Tips: use the translation scheme for boolean expressions with backpatching.
- Suppose that the start position of the generated code is 100.

(DBv2, pp.412-414)

```
100 : if x < 100 goto _
101 : goto 102
102 : if x > 200 goto 104
103 : goto _
104 : if x != y goto _
105 : goto _
```