

**Werkcollege Compilerconstructie**  
**Vrijdag 26 oktober 2018**

1. (Derived from Exercise 6.4.3(a) from the book)

Consider the following assignment:

$$\mathbf{x} = \mathbf{a}[\mathbf{i}] + \mathbf{b}[\mathbf{j}]$$

where the arrays  $a$  and  $b$  are declared as follows:

```
int a[5];
```

```
int b[7];
```

- (a) Draw the ‘syntax trees’ for the types of  $a$  and  $b$ .
- (b) Draw the parse tree for the assignment.
- (c) Use the translation scheme of Fig. 6.22 to annotate the parse tree, i.e., to determine values for the attributes of the variables in the tree. Give the resulting translation of the assignment into three-address code.