Exercise 9: Syntax Trees (2)

Consider the following strongly simplified grammar of statements:

```
Statement =
  ident "=" ident "-" ident
| "{" Statement {";" Statement} "}"
| "if" "(" ident ">" ident ")" Statement
| "while" "(" ident ">" ident ")" Statement.
```

Draw the abstract syntax tree for the following program

```
if (a > b) {
    while (a > b) a = a - b;
    b = b - a
}
```

where "if", "while", "=", ">", "-" and ";" are operators and identifiers are operands. The operator ";" concatenates two statements.

Solution