

# Lab Nine

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Jordan Murray

Jordan.Murray1@Marist.edu

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## 1 PROBLEM 5.5 - CRAFTING A COMPILER

```
1 DeclList -> DeclList ; v1
2 | v1
3 v1 -> Decl
4 Decl -> IdList : Type
5 IDList -> IDList, v2
6 | v2
7 v2 -> id
8 Type -> v3
9 v3 -> ScalarType
10 Type -> array(v3) of Type
11 ScalarType -> v2
12 | Bound..Bound
13 Bound -> Sign intconstant
14 | v2
15 Sign -> +
16 | -
17 | λ
18 ScalarTypelist -> ScalarTypelist, v3
19 | v3
```

## 2 PROBLEM 4.5.3 A - DRAGON

stack	action
0	shift 0
00	shift 0
000	shift 0
0001	shift 1
00S	reduce 01 -> S
00S1	shift 1
0S	reduce 0S1 -> S
0S1	shift 1
S	reduce 0S1 -> S

## 3 PROBLEM 4.5.3 B - DRAGON

stack	action
a	shift a
S	reduce a -> S
Sa	shift a
SS	reduce a -> S
SSa	shift a
SSS	reduce a -> S
SSS*	shift *
SS	reduce SS* -> S
SSa	shift a
SSS	reduce a -> S
SSS+	shift +
SS	reduce SS+ -> S
SS+	shift +
S	reduce SS+ -> S