Lab 4 Code Gen

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1 Test Cases

These are all made to test the limits of code gen. This file will only have the code generation for the programs.

1.1 Test Case 1

```
{
    int a
    a = 1
        {
        int a
        a = 2
            {
                int a
                a = 3
                print(a)
            }
        print(a)
    }
    print(a)
}$

A9 00 A9 00 8D 33 00 A9
01 8D 33 00 A9 00 8D 35
00 A9 02 8D 35 00 A9 00
8D 34 00 A9 03 8D 34 00
AC 34 00 A2 01 FF AC 35
00 A2 01 FF AC 33 00 A2
01 FF 00 00 00 00 00 00
00 00 00 00 00 00 00 00
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00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 74 72 75
65 00 66 61 6C 73 65 00
```

1.2 Test Case 2

```
{
    int a
    a = 1
    int b
    b = 0

    while(a == 1){

        b = 1+b
        print(b)

        if(b == 3){
            a = 2
        }
    }

    print("done")
}$
```

```
A9 00 A9 00 8D 68 00 A9
01 8D 68 00 A9 00 8D 69
00 A9 00 8D 69 00 AE 68
00 A9 01 8D 00 00 EC 00
00 A9 01 D0 02 A9 00 A2
00 8D 00 00 EC 00 00 D0
11 A9 01 8D 00 00 6D 69
00 8D 69 00 AC 69 00 A2
01 FF AE 69 00 A9 03 8D
00 00 EC 00 00 D0 05 A9
02 8D 68 00 D0 c0 D0 0C
A9 00 8D 00 00 A2 01 EC
00 00 A0 f0 A2 02 FF 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
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00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
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00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
64 6f 6e 65 00 74 72 75
65 00 66 61 6C 73 65 00
```

1.3 Test Case 3

```
{
    if(1 == 1){
        print("compared")
    }
}$

A9 00 A2 01 A9 01 8D 00
00 EC 00 00 D0 05 A0 ec
A2 02 FF 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
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00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 63 6f 6d 70
```

```
61 72 65 64 00 74 72 75
65 00 66 61 6C 73 65 00
```

1.4 Test Case 4

```
{
    if true{
        print("base case")
    }
}$

A9 00 A2 f5 A9 f5 8D 00
00 EC 00 00 D0 05 A0 eb
A2 02 FF 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
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00 00 00 00 00 00 00 00
00 00 00 62 61 73 65 20
63 61 73 65 00 74 72 75
65 00 66 61 6C 73 65 00
```

1.5 Test Case 5

```
{
    while true{
        print("base case")
    }
}$

```

```
A9 00 A2 f5 A9 f5 8D 00
00 EC 00 00 A9 01 D0 02
A9 00 A2 00 8D 00 00 EC
00 00 D0 05 A0 eb A2 02
FF D0 0C A9 00 8D 00 00
A2 01 EC 00 00 D0 d3 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
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00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 62 61 73 65 20
63 61 73 65 00 74 72 75
65 00 66 61 6C 73 65 00
```

1.6 Test Case 6

```
{
    print(1+2+3)
}$

A9 00 A9 01 8D 00 00 A9
02 6D 00 00 8D 00 00 A9
03 6D 00 00 8D 00 00 8D
00 00 AC 00 00 A2 01 FF
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
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```

```
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00 00 00 00 00 00 00 00
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00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 74 72 75
65 00 66 61 6C 73 65 00
```

1.7 Test Case 7

```
{
    print((true == false))
}$

A9 00 A2 f5 A9 fa 8D 00
00 EC 00 00 A9 fa D0 02
A9 f5 8D 1c 00 AC 1c 00
A2 02 FF 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
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```

```
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 74 72 75
65 00 66 61 6C 73 65 00
```

1.8 Test Case 8

```
{
    print("hello")
}$

A9 00 A0 ef A2 02 FF 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
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00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 68
65 6c 6c 6f 00 74 72 75
65 00 66 61 6C 73 65 00
```

2 References

Java Regular Expression
Enum
Switch cases (Was more of an idea)
Double Quote For Regular Expressions

Groups in Regular Expressions
More Group stuff
Index for Regular Expressions
Check for end of line
Full Syntax Java Regx
Quote In Regx
Class Website
Os
Example Compiler
Geek for Geeks
BaelDung