COMPILER DESIGN

ASSIGNMENT PRESENTATION

Toy Compiler for

– Binary to Decimal Converter

Contents – Program Files

Team:

19Z304 – Aditya Sriram

19Z313 – Dharun Bharathi S

19Z351 – Surtik S

19Z357 – T S Swaminathan

Commands to run Syntax Analyzer and Symbol Construction:

- **$ lex filename.l**
- **$ yacc filename.y**
- **$ gcc y.tab.c -lfl -lm**
- **$ ./a.out < input_c_file.c**

Output of Syntax Analyzer:

```
Program is syntactically correct!

db@db-VB:~/CD/AP_BtoD$
```

Symbol Table:

```
The program inputted is syntactically correct!
Continuing with symbol table creation...

               +---------------------------
               | SYMBOL TABLE CONSTRUCTION |
               ---------------------------+


_____________________________________________________________________

SYMBOL          DATATYPE          TYPE            LINE NUMBER
_____________________________________________________________________

#inc                -            Header                0
#inc                -            Header                1
/* */               -            Comments              3
/* */               -            Comments              4
n                 int            Variable              5
i                 int            Variable              6
flag              int            Variable              7
fun()             int            Function              8
fun()             int            Function              9
for                 -            Keyword               11
2                   -            Constant              11
if                  -            Keyword               12
0                   -            Constant              12
else                -            Keyword               15
1                   -            Constant              16
fun()             int            Function              21
fun()             int            Function              24
return              -            Keyword               26
main()            int            Function              27
```

Output of Binary to decimal converter evaluation:

```
                        +-------------------------------
                        | Binary to Decimal Conversion |
                        -------------------------------+


Enter a binary number to find the decimal equivalent:
10101

Decimal Equivalent : 21
```

3 Address code generation:

```
                        +-----------------------------------
                        | Binary to Decimal 3 Address Code |
                        -----------------------------------+


Enter a binary number to find the decimal equivalent:
10101

t0 = 1
t1 = t0
t2 = 0
t3 = t1*2 + t2
t4 = 1
t5 = t3*2 + t4
t6 = 0
t7 = t5*2 + t6
t8 = 1
t9 = t7*2 + t8
Result = t9
```