

## COMPILER DESIGN ASSIGNMENT – 2

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SECTION: F

Output screenshots:

AST:

```
pes2ug21cs338_nikitha@DESKTOP-M2F1J3K:~/cd-assignment2/AST$ lex lexer.l
pes2ug21cs338_nikitha@DESKTOP-M2F1J3K:~/cd-assignment2/AST$ yacc -d parser.y
pes2ug21cs338_nikitha@DESKTOP-M2F1J3K:~/cd-assignment2/AST$ gcc -g y.tab.c lex.yy.c -ll
pes2ug21cs338_nikitha@DESKTOP-M2F1J3K:~/cd-assignment2/AST$ ./a.out < test_input_1.c
Preorder:
a b > a a 1 + = b b 1 - = seq if
Valid syntax
pes2ug21cs338_nikitha@DESKTOP-M2F1J3K:~/cd-assignment2/AST$ ./a.out < test_input_2.c
Preorder:
a b > a a 1 + = b b 1 - = seq a a 1 - = b b 1 - = seq if-else
Valid syntax
pes2ug21cs338_nikitha@DESKTOP-M2F1J3K:~/cd-assignment2/AST$ ./a.out < test_input_3.c
Preorder:
a b > a a 1 + = b b 1 - = seq a a 1 - = b b 1 - = b 0 < b b 1 + = b 0 = if-else seq seq if-else
Valid syntax
pes2ug21cs338_nikitha@DESKTOP-M2F1J3K:~/cd-assignment2/AST$ _
```

ICG:

```
pes2ug21cs338_nikitha@DESKTOP-M2F1J3K:~/cd-assignment2/ICG$ lex lexer.l
pes2ug21cs338_nikitha@DESKTOP-M2F1J3K:~/cd-assignment2/ICG$ yacc -d parser.y
pes2ug21cs338_nikitha@DESKTOP-M2F1J3K:~/cd-assignment2/ICG$ gcc -g y.tab.c lex.yy.c -ll
pes2ug21cs338_nikitha@DESKTOP-M2F1J3K:~/cd-assignment2/ICG$ ./a.out < test_input_1.c
```

Generated Intermediate Code

op	arg1	arg2	result
>	a	b	t1
if	t1		L1
goto			L2
Label			L1
+	a	1	t2
=	t2		a
-	b	1	t3
=	t3		b
Label			L2
*	b	a	t4
+	a	t4	t5
=	t5		a

Error :syntax error at 7

```
pes2ug21cs338_nikitha@DESKTOP-M2F1J3K:~/cd-assignment2/ICG$ ./a.out < test_input_2.c
Generated Intermediate Code
```

op	arg1	arg2	result
>	a	b	t1
if	t1		L1
goto			L2
Label			L1
+	a	1	t2
=	t2		a
-	b	1	t3
=	t3		b
goto			L3
Label			L2
-	a	1	t4
=	t4		a
-	b	1	t5
=	t5		b
Label			L3

Valid syntax