

# UE20CS353 - Compiler Design

## Lab 6

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AST Outputs:

Test case 1:

```
vishwa@Acer-Vishwa: /mnt/c/L X vishwa@Acer-Vishwa: /mnt/c/ X + v
vishwa@Acer-Vishwa:/mnt/c/Users/Vishwa/Documents/Vishwa_PES/Sem6/353_CD/HandsOn/lab6/AST$ ./run.sh
vishwa@Acer-Vishwa:/mnt/c/Users/Vishwa/Documents/Vishwa_PES/Sem6/353_CD/HandsOn/lab6/AST$ ./a.out < test_input
1.c
if
>
a
b
seq
=
a
+
a
1
=
b
-
b
1
Valid syntax
```

Test case 2:

```
vishwa@Acer-Vishwa: /mnt/c/L X vishwa@Acer-Vishwa: /mnt/c/ X + v
vishwa@Acer-Vishwa:/mnt/c/Users/Vishwa/Documents/Vishwa_PES/Sem6/353_CD/HandsOn/lab6/AST$ ./a.out < test_input2.c
if-else
>
a
b
seq
=
a
+
a
1
=
b
-
b
1
seq
=
a
-
a
1
=
b
-
b
1
Valid syntax
vishwa@Acer-Vishwa:/mnt/c/Users/Vishwa/Documents/Vishwa_PES/Sem6/353_CD/HandsOn/lab6/AST$ ./a.out < test_input3.c
```

Test case 3:

```
vishwa@Acer-Vishwa: /mnt/c/l X vishwa@Acer-Vishwa: /mnt/c/ X + v
vishwa@Acer-Vishwa:/mnt/c/Users/Vishwa/Documents/Vishwa_PES/Sem6/353_CD/HandsOn/lab6/AST$ ./a.out < test_input
3.c
if-else
>
a
b
seq
=
a
+
a
1
=
b
-
b
1
seq
=
a
-
a
1
seq
=
b
-
b
```

```
vishwa@Acer-Vishwa: /mnt/c/l X vishwa@Acer-Vishwa: /mnt/c/ X + v
b
1
seq
=
a
-
a
1
seq
=
b
-
b
1
if-else
<
b
0
=
b
+
b
1
=
b
0
Valid syntax
vishwa@Acer-Vishwa:/mnt/c/Users/Vishwa/Documents/Vishwa_PES/Sem6/353_CD/HandsOn/lab6/AST$ _
```

ICG Outputs:

Test case 1 and 2:

```
vishwa@Acer-Vishwa: /mnt/c/l X vishwa@Acer-Vishwa: /mnt/c/ X + v
vishwa@Acer-Vishwa:/mnt/c/Users/Vishwa/Documents/Vishwa_PES/Sem6/353_CD/HandsOn/lab6/ICG$ ./run.sh
vishwa@Acer-Vishwa:/mnt/c/Users/Vishwa/Documents/Vishwa_PES/Sem6/353_CD/HandsOn/lab6/ICG$ ./a.out < test_input
1.c
Valid syntax
vishwa@Acer-Vishwa:/mnt/c/Users/Vishwa/Documents/Vishwa_PES/Sem6/353_CD/HandsOn/lab6/ICG$ ./a.out < test_input
2.c
Valid syntax
vishwa@Acer-Vishwa:/mnt/c/Users/Vishwa/Documents/Vishwa_PES/Sem6/353_CD/HandsOn/lab6/ICG$ _
```

## Intermediate Code:

```
vishwa@Acer-Vishwa: /mnt/c/l  X  vishwa@Acer-Vishwa: /mnt/c/  X  +  v
vishwa@Acer-Vishwa:/mnt/c/Users/Vishwa/Documents/Vishwa_PES/Sem6/353_CD/HandsOn/lab6/ICG$ cat icg_quad.txt
Generated Intermediate Code
>      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
Generated Intermediate Code
>      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
```

```
vishwa@Acer-Vishwa: /mnt/c/l  X  vishwa@Acer-Vishwa: /mnt/c/  X  +  v
>      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
Generated Intermediate Code
>      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
vishwa@Acer-Vishwa:/mnt/c/Users/Vishwa/Documents/Vishwa_PES/Sem6/353_CD/HandsOn/lab6/ICG$
```