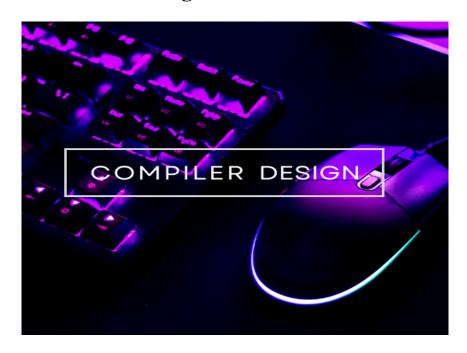# PROJECT

ON

Right shift and Left Shift Operators,

Pre-increment and Post Increment

Using Lex And Yacc

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CLASS : MCA Sem-4 (2021-2024)

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Report : Parser Project Using Lex and Yacc

Syntax :

Identifier++;

++Identifier;

Identifier/Number Left Shift/ Right Shift Identifier/Number;

(Identifier++); // multi times bracket allowed

(Identifier)++; // multi times bracket allowed

{Identifier++};

{(((identifier++))};

(Identifier/Number Left Shift/ Right Shift Identifier/Number);

{Identifier/Number Left Shift/ Right Shift Identifier/Number};

(Number) Left Shift/ Right Shift (Number)

FOR EXAMPLE:

A++;   (A++);   {a++};   (a)++;

++b; {((++b))};   ++(((b)));

7<<1;   (7)<<(1);   ((7)<<(1)); {((7)<<(1))};

a>>b;   (a>>b);   {a>>b};

(*P)++;   ++(*P);   (((*P)))++;

Assumptions :

- All the identifiers are integers.
- No space is allowed between the identifier and operators.

Capabilities :

- Can increment the value of the identifiers before and after the operation is performed.
- Can perform left and right shift operations.
- Can increment the value which pointed to that address.
- Brackets are allowed while performing operations.

Limitations :

- Cannot handle space.

Test Cases :

- A++ ;   Syntax valid
- (Value)++;   Syntax valid
- ((4)>>(1));   syntax valid
- ++(((*p)));   syntax valid
- {(*a)++;   Error: '}' is missing

  Error: syntax error

- (*a)++;   syntax valid.
- A<<;   Error: no match for operator '<<'

  Error: syntax error

- (A++;   Error: ')' is missing

  Error: syntax error

- (7<<(1);   Error: ')' is missing

  Error: syntax error

- (6)>>Y;   syntax valid.
- {++ABC}   Error: ; is missing
- {++ABC};   syntax valid.
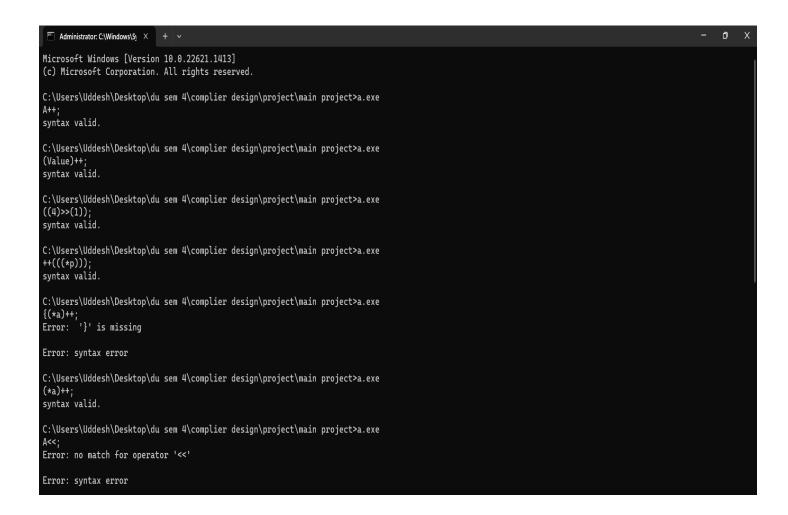- {((4))>>Y};   syntax valid.
- {(((a++)))};   syntax valid
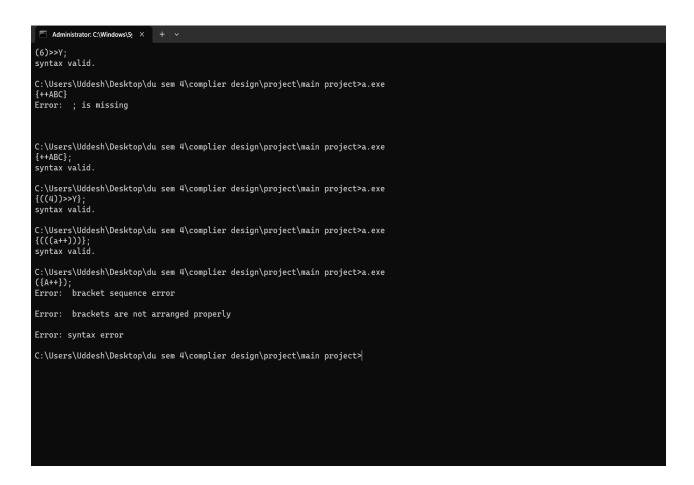- ({A++});   Error: bracket sequence error

  Error: brackets are not arranged properly

  Error: syntax error.

Output:

```
Administrator: C:\Windows\Sy  X    +   v                                                          —    □    X

Microsoft Windows [Version 10.0.22621.1413]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
A++;
syntax valid.

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
(Value)++;
syntax valid.

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
((4)>>(1));
syntax valid.

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
++(((*p)));
syntax valid.

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
{(*a)++;
Error:  '}' is missing

Error: syntax error

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
(*a)++;
syntax valid.

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
A<<;
Error: no match for operator '<<'

Error: syntax error
```

```
Error: syntax error

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
(A++;
Error:  ')' is missing

Error: syntax error

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
(7<<(1);
Error:  ')' is missing

Error: syntax error

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
(6)>>Y;
syntax valid.

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
{++ABC}
Error:  ; is missing


C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
{++ABC};
syntax valid.

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
{((4))>>Y};
syntax valid.

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
{(((a++)))};
syntax valid.
```

```
(6)>>Y;
syntax valid.

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
{++ABC}
Error:  ; is missing



C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
{++ABC};
syntax valid.

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
{((4))>>Y};
syntax valid.

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
{(((a++)))};
syntax valid.

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>a.exe
({A++});
Error:  bracket sequence error

Error:  brackets are not arranged properly

Error: syntax error

C:\Users\Uddesh\Desktop\du sem 4\complier design\project\main project>
```

GOTO GRAPH :