



Design of compilers

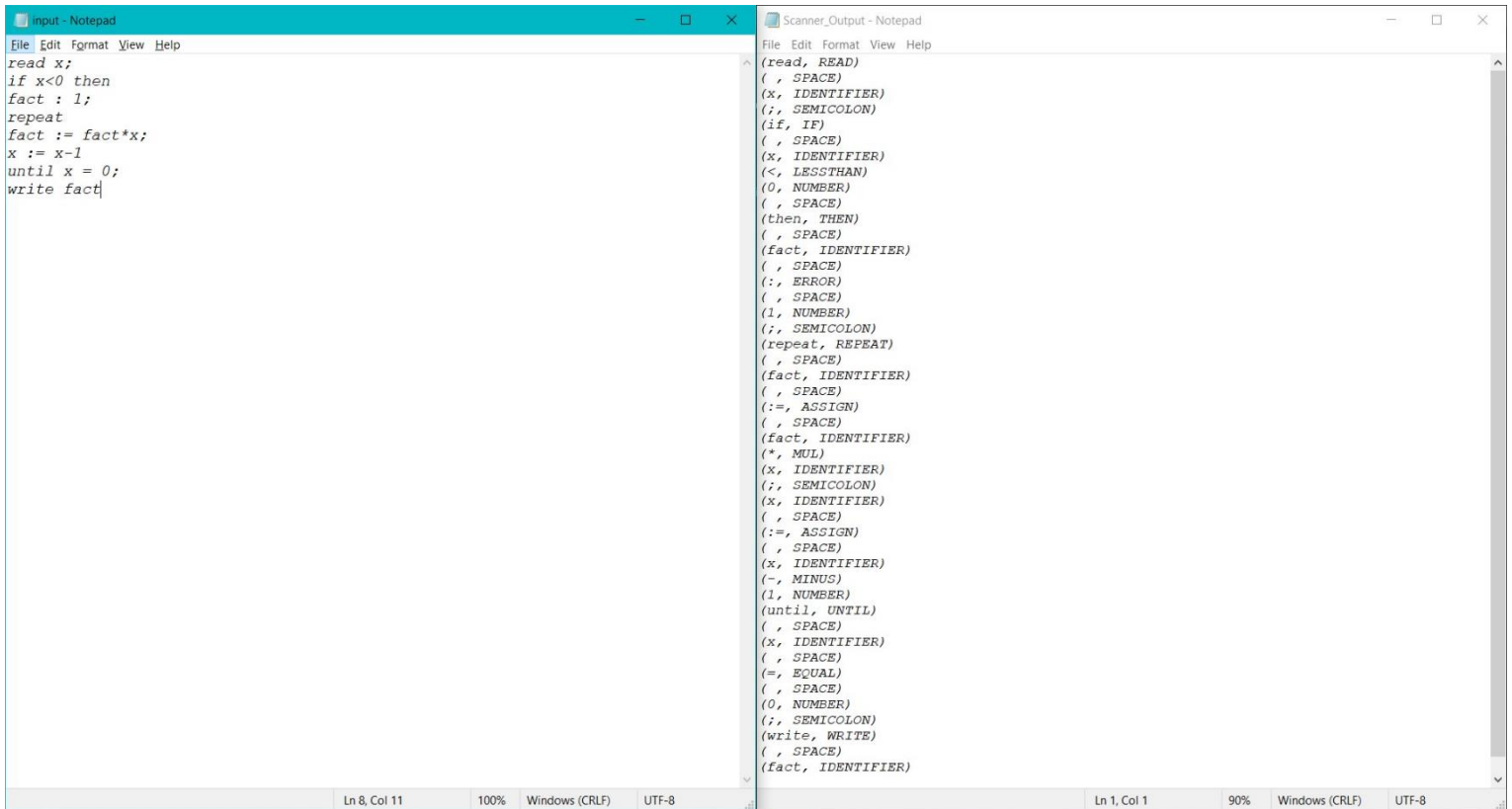
Scanner Project

- *Team members:*

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Note: the input is given to the scanner as a **file.**

- Snapshots from the project:



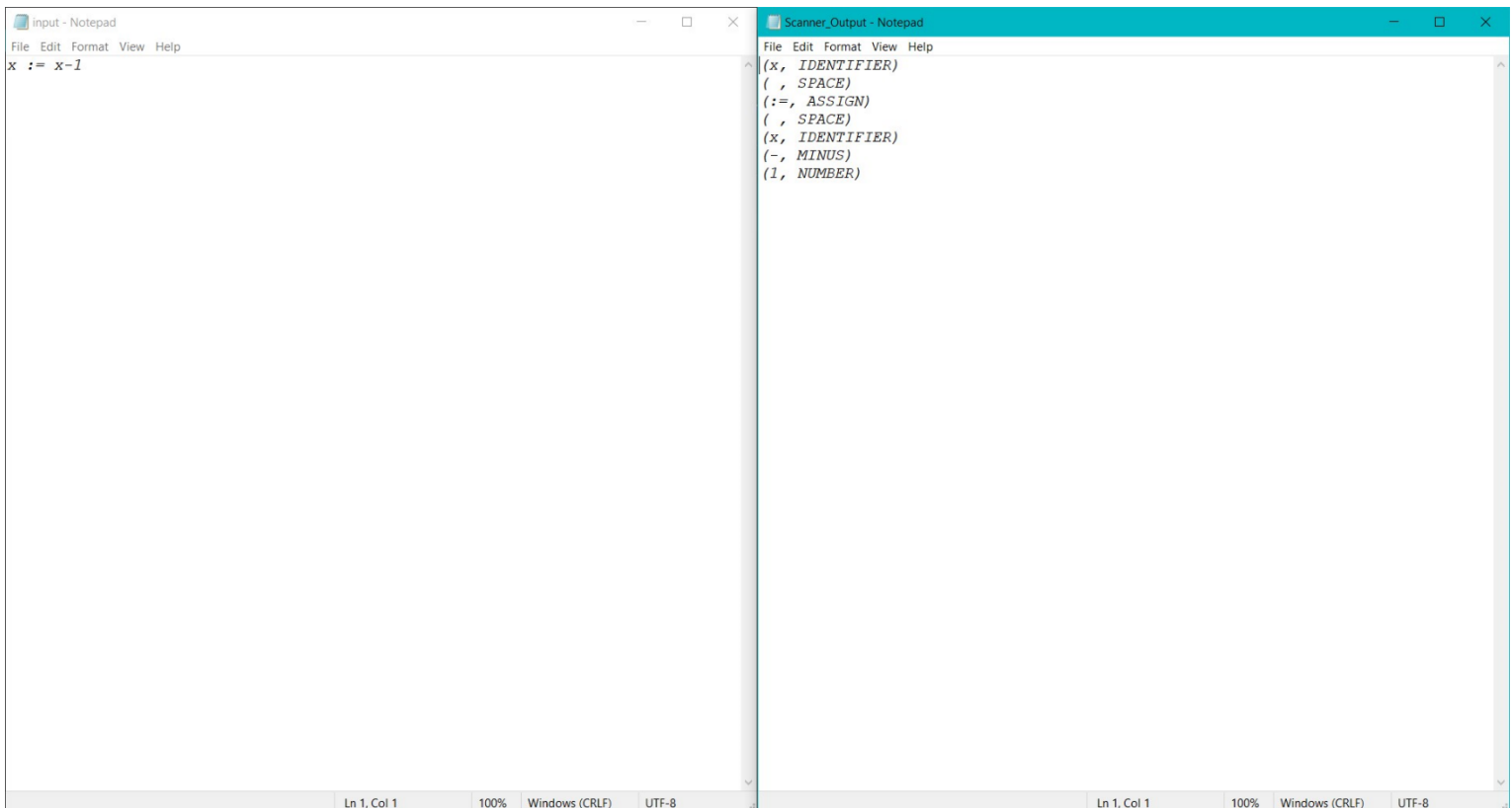
The screenshot shows two Notepad windows side-by-side. The left window, titled 'input - Notepad', contains the following code:

```
read x;  
if x<0 then  
fact : 1;  
repeat  
fact := fact*x;  
x := x-1  
until x = 0;  
write fact
```

The right window, titled 'Scanner_Output - Notepad', displays the scanned tokens for the input code, with each token on a new line:

```
(read, READ)  
( , SPACE)  
(x, IDENTIFIER)  
(;, SEMICOLON)  
(if, IF)  
( , SPACE)  
(x, IDENTIFIER)  
(<, LESSTHAN)  
(0, NUMBER)  
( , SPACE)  
(then, THEN)  
( , SPACE)  
(fact, IDENTIFIER)  
( , SPACE)  
(:, ERROR)  
( , SPACE)  
(1, NUMBER)  
(;, SEMICOLON)  
(repeat, REPEAT)  
( , SPACE)  
(fact, IDENTIFIER)  
( , SPACE)  
(:=, ASSIGN)  
( , SPACE)  
(fact, IDENTIFIER)  
(*, MUL)  
(x, IDENTIFIER)  
(;, SEMICOLON)  
(x, IDENTIFIER)  
( , SPACE)  
(:=, ASSIGN)  
( , SPACE)  
(x, IDENTIFIER)  
(-, MINUS)  
(1, NUMBER)  
(until, UNTIL)  
( , SPACE)  
(x, IDENTIFIER)  
( , SPACE)  
(=, EQUAL)  
( , SPACE)  
(0, NUMBER)  
(;, SEMICOLON)  
(write, WRITE)  
( , SPACE)  
(fact, IDENTIFIER)
```

The status bars at the bottom indicate the current line and column for each window: 'Ln 8, Col 11' for the input window and 'Ln 1, Col 1' for the scanner output window. Both windows are set to 100% zoom, Windows (CRLF) line endings, and UTF-8 encoding.



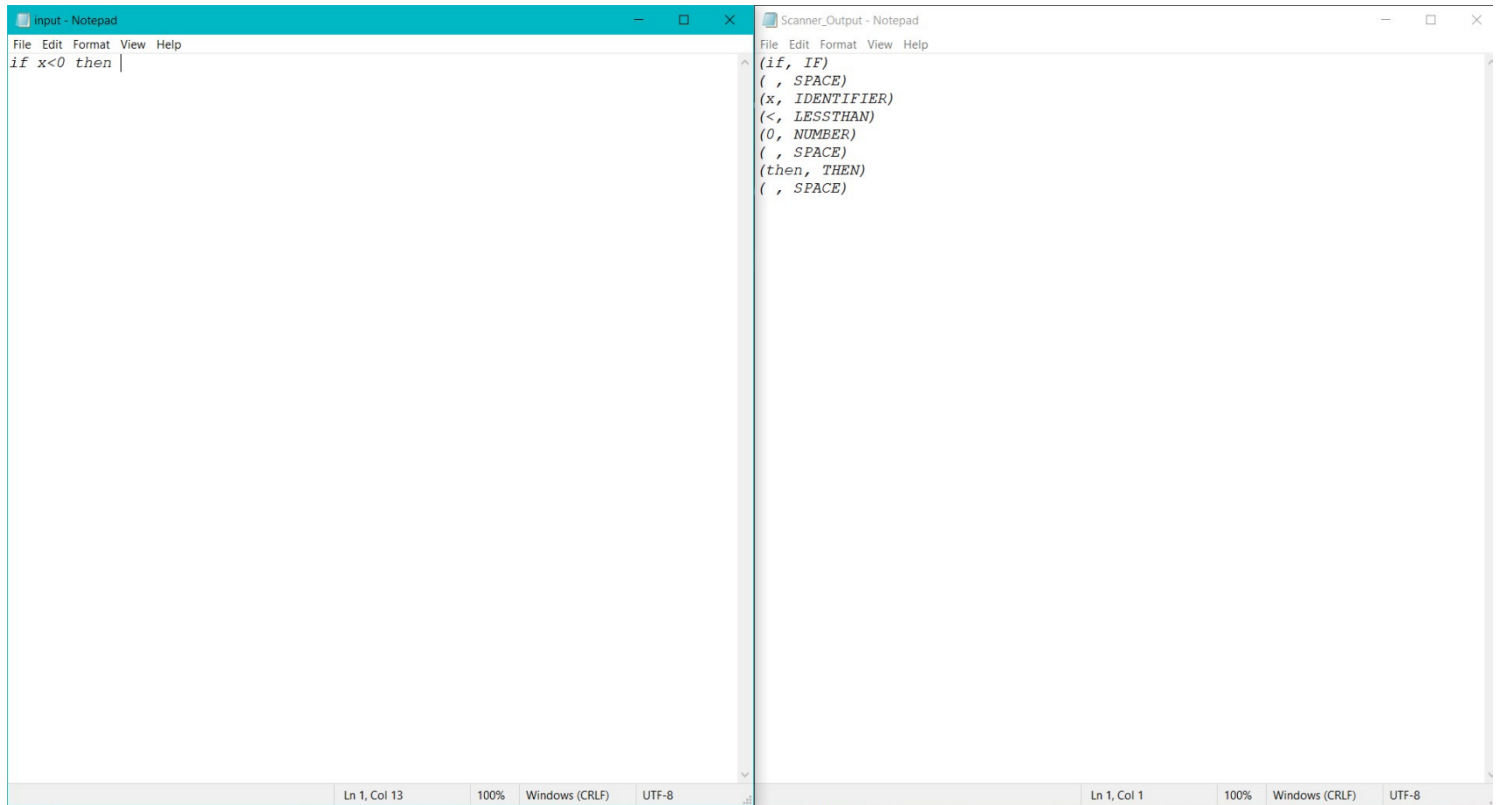
The screenshot shows two Notepad windows side-by-side. The left window, titled 'input - Notepad', contains a single line of code:

```
x := x-1
```

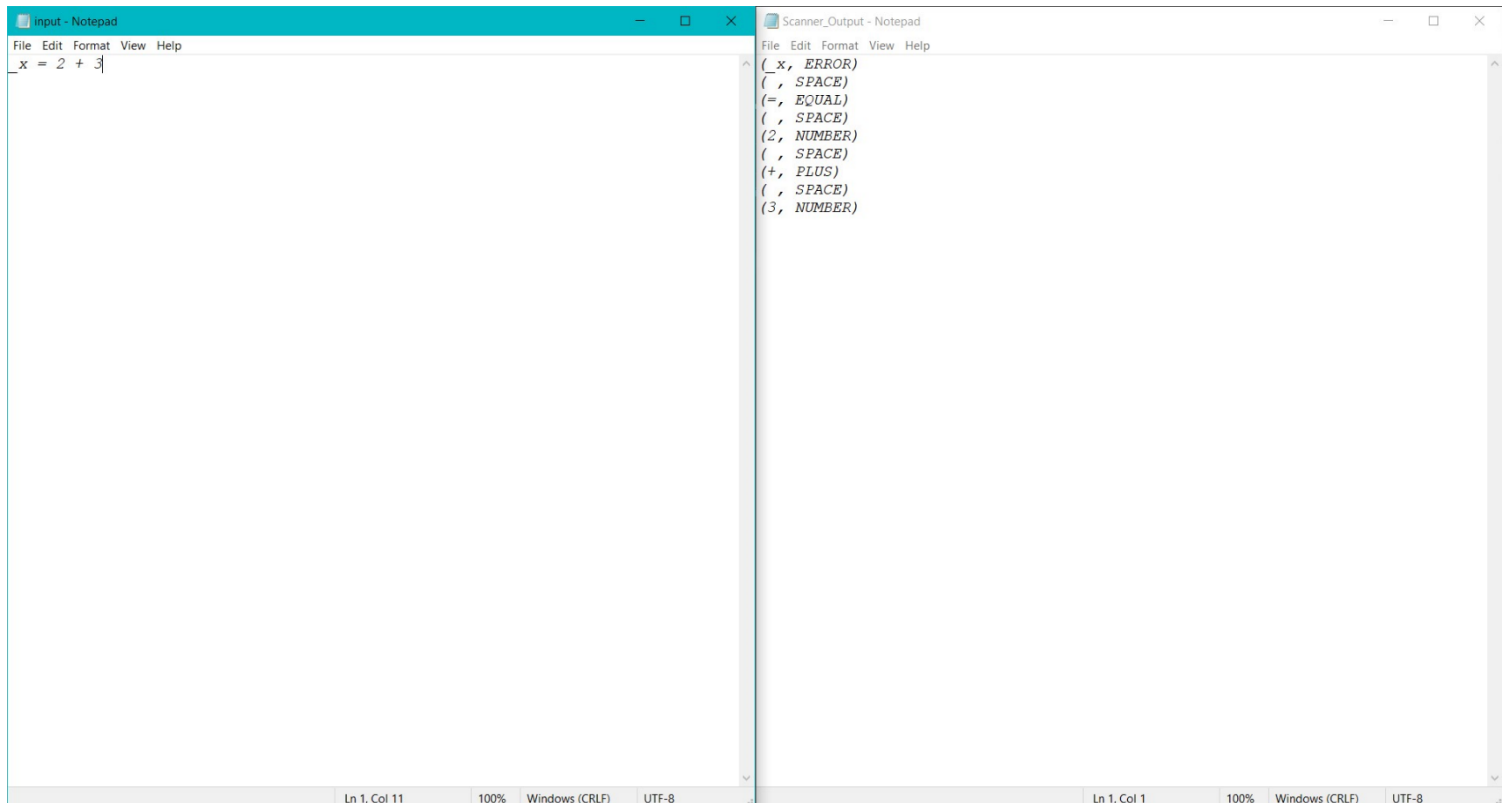
The right window, titled 'Scanner_Output - Notepad', displays the scanned tokens for this single line of code, with each token on a new line:

```
(x, IDENTIFIER)  
( , SPACE)  
(:=, ASSIGN)  
( , SPACE)  
(x, IDENTIFIER)  
(-, MINUS)  
(1, NUMBER)
```

The status bars at the bottom indicate the current line and column for each window: 'Ln 1, Col 1' for both the input and scanner output windows. Both windows are set to 100% zoom, Windows (CRLF) line endings, and UTF-8 encoding.



- *Snapshots of some possible errors:*



input - Notepad

File Edit Format View Help

x : x-1

Ln 1, Col 4100%Windows (CRLF)UTF-8

Scanner_Output - Notepad

File Edit Format View Help

(x, IDENTIFIER)
(, SPACE)
(:, ERROR)
(, SPACE)
(x, IDENTIFIER)
(-, MINUS)
(1, NUMBER)

Ln 3, Col 1100%Windows (CRLF)UTF-8

input - Notepad

File Edit Format View Help

if @ x>0 # then &

Ln 1, Col 6100%Windows (CRLF)UTF-8

Scanner_Output - Notepad

File Edit Format View Help

(if, IF)
(, SPACE)
(@, ERROR)
(, SPACE)
(x>0, ERROR)
(, SPACE)
(#, ERROR)
(, SPACE)
(then, THEN)
(, SPACE)
(&, ERROR)

Ln 3, Col 11100%Windows (CRLF)UTF-8