Lexical Analysis

Lecture 2

Exercise
Question?

For the code fragment below, choose the correct number of tokens in each class that appear in the code fragment

```plaintext
x = 0; \n\ntwhile (x > 10) { \n\n\n\n}\n```

- W: Whitespace
- K: Keyword
- I: Identifier
- N: Number
- O: Other Tokens:
  ```plaintext
  { } ( ) < ++ ; =
  ```

- W = 9; K = 1; I = 3; N = 2; O = 9
- W = 11; K = 4; I = 0; N = 2; O = 9
- W = 9; K = 4; I = 0; N = 3; O = 9
- W = 11; K = 1; I = 3; N = 3; O = 9
For the code fragment below, choose the correct number of tokens in each class that appear in the code fragment:

```plaintext
x = 0; \n\nwhile(x > 10) { \n  \n  tx++; \n}
IWOWNO  W W  K  OIWOWNOO  W W  I  OOW  O
```

- W: Whitespace
- K: Keyword
- I: Identifier
- N: Number
- O: Other Tokens:
  ```plaintext
  {} ( ) < ++ ; =
  ```

Options:
- W = 9; K = 1; I = 3; N = 2; O = 9
- W = 11; K = 4; I = 0; N = 2; O = 9
- W = 9; K = 4; I = 0; N = 3; O = 9
- W = 11; K = 1; I = 3; N = 3; O = 9
Question?

How many distinct strings are in the language of the following regular expression:

$$(0 + 1 + \varepsilon)(0 + 1 + \varepsilon)(0 + 1 + \varepsilon)(0 + 1 + \varepsilon)$$

○ 31
○ 64
○ 32
○ 81
How many distinct strings are in the language of the following regular expression:

\[(0 + 1 + \varepsilon)(0 + 1 + \varepsilon)(0 + 1 + \varepsilon)(0 + 1 + \varepsilon)\]

- 31
- 64
- 32
- 81
Question?

The language of the regular expression \((abab)^*\) is equivalent to the language of which of the following regular expressions?

- (ab)^*
- \((aba (baba)^* b) + \varepsilon\)
- \((ab (abab)^* ab) + \varepsilon\)
- \((a (ba)^* b) + \varepsilon\)

Choose all that apply
The language of the regular expression $(abab)^*$ is equivalent to the language of which of the following regular expressions?

- $(ab)^*$
- $(aba (baba)^* b) + \varepsilon$
- $(ab (abab)^* ab) + \varepsilon$
- $(a (ba)^* b) + \varepsilon$