## Token:

- Think of a token as a categorized unit in a program's code.
- It consists of two parts:
  - The token name, which is like a label representing a type of unit (like "number" or "operator").
  - An optional attribute value, which gives extra information about the token (like the specific value of a number).
- In a program, tokens can be things like words (keywords), numbers, symbols (like "+" or "("), and so on.

## Lexeme:

- A lexeme is the actual sequence of characters in the source code that matches the pattern for a token.
- It's like the specific instance of a token found in the code.
- For example, if "if" is a keyword token, then in the code, the word "if" itself would be the lexeme that matches this token.

## Pattern:

- A pattern is a description of the form that the lexemes of a token can take.
- It's like a blueprint or rule that defines what a valid token looks like.
- Regular expressions are commonly used to define patterns. These are special sequences of characters that help match patterns in text.
- For instance, if we have a keyword token pattern, the pattern might simply be the sequence of characters that make up that keyword, like "if" or "while".

## Related posts:

- 1. What are the types of passes in compiler?
- 2. Discuss the role of compiler writing tools. Describe various compiler writing tools.
- 3. What do you mean by regular expression? Write the formal recursive definition of a regular expression.
- 4. How does finite automata useful for lexical analysis?
- 5. Explain the implementation of lexical analyzer.
- 6. Write short notes on lexical analyzer generator.
- 7. Explain the automatic generation of lexical analyzer.
- 8. What are the various LEX actions that are used in LEX programming?
- 9. Describe grammar.
- 10. Explain formal grammar and its application to syntax analyzer.
- 11. Define parse tree. What are the conditions for constructing a parse tree from a CFG?
- 12. Describe the capabilities of CFG.
- 13. What is parser? Write the role of parser. What are the most popular parsing techniques? OR Explain about basic parsing techniques. What is top-down parsing? Explain in detail.
- 14. What are the common conflicts that can be encountered in shift-reduce parser?
- 15. Differentiate between top-down and bottom-up parser. Under which conditions predictive parsing can be constructed for a grammar?
- 16. Differentiate between recursive descent parsing and predictive parsing.
- 17. What is the difference between S-attributed and L-attributed definitions?
- 18. What is intermediate code generation and discuss benefits of intermediate code?
- 19. Define parse tree. Why parse tree construction is only possible for CFG?
- 20. Discuss symbol table with its capabilities?
- 21. What are the symbol table requirements? What are the demerits in the uniform

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	Explain the term token, lexeme and pattern.
structure of symbol table ?	