

CS606-Compiler Construction Quiz #Objective #Questions

1. Which of the following statement is true about Two-pass compiler.
 - Front End depends upon Back End
 - Back End depends upon Front End ✓
 - Both are independent of each other
 - None
2. In a three-pass compiler, ____ is used for code improvement or optimization.
 - Front End
 - Middle End ✓
 - Back End
 - Both Front End and Back End
3. In multi-pass compiler during the first pass, it gathers information about ____
 - Declaration ✓
 - Bindings
 - Static information
 - None
4. Which of the statement is true about Regular Languages?
 - Regular Languages are the most popular for specifying tokens.
 - Regular Languages are based on simple and useful theory.
 - Regular Languages are easy to understand
 - All of the given ✓
5. The DFA uses its state to keep track of ____ the NFA can be in after reading each input symbol.
 - Accept state
 - Reject state
 - Next state
 - All possible states ✓
6. In ____ certain check are performed to ensure that components of a program fit together meaningfully.
 - Linear analysis
 - Hierarchical analysis
 - Semantic analysis ✓
 - None
7. Compilers are some times classifies as:
 - Single-pass
 - Multipass
 - Load and go
 - All of the given ✓
8. In compiler, linear analysis is also called
 - Lexical analysis
 - Scanning
 - Both lexical analysis and scanning ✓
 - None
9. In a transition table cells of the table contain the ____ state.

- Reject state
- Next state ✓
- Previous state
- None

10. In Back End module of the compiler, optimal register allocation uses ____.

- $O(\log n)$
- $O(n \log n)$
- NP-Complete ✓
- None

11. A non-recursive predictive parser is also called ____

- table-driven parser ✓
- Abstract parser
- Conceptual parser
- None

12. The shift action ____ a terminal on the stack

- Pushes ✓
- Pops
- Both pushes and pops
- None

13. Bottom-up parsing is also called ____

- LR parsing ✓
- LT parsing
- LS parsing
- SS parsing

14. ____ of a two-pass compiler is consists of instruction selection, Register allocation and instrcution scheduling

- Backend ✓
- Frontend
- Start
- None

15. Consider the grammar

$A \rightarrow B C C$

$B \rightarrow h B \mid \text{epsilon}$

$C \rightarrow C g \mid g \mid C h \mid i$

$D \rightarrow A B \mid \text{epsilon}$

First of A is ____

- h, g, i
- g
- h ✓
- None

16. $A \rightarrow B C C$

$B \rightarrow h B \mid \text{epsilon}$

$C \rightarrow C g \mid g \mid C h \mid i$

$D \rightarrow A B \mid \text{epsilon}$

Follow of A ____

- h, \$
- \$
- i
- g

17. $A \rightarrow B C C$

$B \rightarrow h B \mid \epsilon$

$C \rightarrow C g \mid g \mid C h \mid i$

$D \rightarrow A B \mid \epsilon$

Follow of C is ____

- g, h, i, \$ ✓
- g, h, \$
- h, i, \$
- h, g, \$

18. Left factoring of grammar is done to save the parser from backtracking.

- True ✓
- False

19. Typical compilation means programs written in high-level languages to low-level ____

- Object code
- Byte code
- Unicode
- Object code and byte code ✓

20. In compilation process, Hierarchical analysis is also called ____

- Parsing
- Syntax
- Parsing and Syntax analysis ✓
- None

21. IR (Intermediate Representation) stores the value of its operand in ____

- Registers ✓
- Memory
- Hard disk
- None

22. A lexeme is a sequence of characters in the source program that is matched by the pattern for a ____

- Linker
- Token ✓
- Control flow
- None

23. Parsers take ____ as Input from lexical analyzer.

- Linker
- Token ✓
- Instructions
- None

24. What kind of abstract machine can recognize strings in a regular set?

- DFA ✓
- NFA

- PDA
- None

25. In DFA minimization, we construct one ____ for each group of states from the initial DFA.

- State ✓
- NFA
- PDA
- None

26. ____ (lexical Analyzer generator), is written in Java

- Flex
- Jlex ✓
- Complex
- None

27. In flex specification file, different sections are separated by ____

- %% ✓
- &&
- ##
- None

28. Recursive ____ parsing is done for LL(I) grammar.

- Descent y✓
- Ascent
- Forward
- None

29. Alternative of the backtrack in parser is Look ahead symbol in ____

- Input ✓
- Output
- Input and Output
- None

30. Parser takes tokens from scanner and tries to generate ____

- Binary Search Tree
- Parse tree ✓
- Binary Search and Parse tree
- None

31. In predictive parsing table, the rows represents ____

- Terminals
- Both non-terminals and terminals
- Non-terminals ✓
- None

32. In LL(I) parsing algorithm, ____ contains a sequence of grammar symbols.

- Stack ✓
- Link list
- Array
- None

33. Consider the grammar

A $\rightarrow$ B C D

B $\rightarrow$ h B | ϵ

C $\rightarrow$ C g | g | C h | i

D $\rightarrow$ A B | ϵ

First of C is ____

- g, i ✓
- g
- h, i
- None

34. Bottom-up parsing uses only ____ kinds of actions.

- Two ✓
- Three
- Four
- Five

35. Reduce ____ action zero or more symbols from the stack.

- Pushes
- Pops ✓
- Both push and pops
- None

36. Back End of two-pass compiler uses ____ algorithm

- $O(n)$
- $O(n \log n)$
- NP complete ✓
- None

37. The Back End of a compiler consists of ____

- Instruction selection ✓
- Register allocation
- Instruction scheduling
- All of given

38. ____ is a regular expression for the set of all strings over the alphabet {a} that has an even number of a's

- aa^*
- $(aa)^*$ ✓
- aa^*a
- $a(aa)^*$

39. ____ algorithm is used in DFA minimization.

- Jame's
- Robert's
- Hopcroft's y ✓
- None

40. ____ is an important component of semantic analysis.

- Code checking
- Type checking ✓
- Flush checking
- None

41. Consider the grammar

$A \rightarrow B C D$

$B \rightarrow h B \mid \epsilon$

$C \rightarrow C g \mid g \mid C h \mid i$

First of B is ____

- h, i
- h, epsilon ✓
- g
- None

42. Consider the grammar

$A \rightarrow B C D$

$B \rightarrow h B \mid \epsilon$

$C \rightarrow C g \mid g \mid C h \mid i$

$D \rightarrow A B \mid \epsilon$

First of D is ____

- h, g
- h
- h, g, i, epsilon ✓
- None

43. ____ parsers never shifts into an error state.

- LS
- LT
- LR ✓
- LP

44. ____ read the input character and produce sequence of tokens as output.

- Lexical analyzer ✓
- Parser
- Symbol table
- None

45. The regular expression ____ denotes, the set of all strings of a's and b's of length two.

- a^*
- $(a^* \mid b^*)^*$
- $(a^* b^*)^*$
- $(a \mid b)(a \mid b)$ ✓

46. ____ is evaluated to yield a value.

- Command
- Expression ✓
- Declaration
- None

47. Bottom-up parsers handle a ____ class of grammar

- Large ✓
- Small
- Medium
- None

48. LR parsers can handle ____ grammars.

- Left-recursive ✓
- File-recursive
- End-recursive
- Start-recursive

49. ____ convert the relocatable machine code into absolute machine code by linking library and relocatable object files.

- Assembler
- Loader/link-editor ✓
- Compiler
- Preprocessor

50. Consider the grammar

A -> B C D

B -> h B | epsilon

C -> C g | g | C h | i

D -> A B | epsilon

Follow of B is ____

- h ✓
- g, h, i, \$
- g, i
- g

51. In PASCAL ____ represent the inequality test.

- :=
- =
- <> ✓
- None

52. ____ avoid hardware stalls and interlocks.

- Register allocation
- Instruction scheduling ✓
- Instruction selection
- None

53. One of the core tasks of compiler is to generate fast and compact executable code.

- True ✓
- False

54. Responsibility of ____ is to produce fast and compact code.

- Instruction selection ✓
- Register allocation
- Instruction scheduling
- None

55. Compilers are sometimes classified as

- Single pass
- Multi pass
- Load and go
- All of given ✓

56. Flex is an automated tool that is used to get the minimized DFA (scanner).

- True
- False ✓

57. For each language to make LL(1) grammar, we take two steps, 1st is removing left recurrence and 2nd is applying left factoring in sequence.

- True ✓
- False

58. Optimal registers allocation is an NP-hard problem.

- True
- False ✓

59. Front end of two pass compiler takes ____ as input.

- Source code ✓
- Intermediate Representation (IR)
- Machine code
- None

60. NFA is easy to implement as compared to DFA

- True
- False ✓

61. We can get an LL(1) grammar by ____

- Removing left recurrence
- Applying left factoring
- Removing left recurrence and Applying left factoring ✓
- None

62. Parser always gives a tree like structure as output

- True
- False

63. Lexer and scanner are two different phases of compiler.

- True
- False ✓

64. ____ phase which supports macro substitution and conditional compilation.

- Semantic
- Syntax
- Preprocessing ✓
- None

65. ____ tree in which each node represents an operator and children of the node represent the operands

- Abstract syntax ✓
- Concrete syntax
- Parse
- None

66. Ambiguity can easily be handled by top-down parser

- True ✓
- False

67. LR parsing ____ a string to the start symbol by inverting productions.

- Reduces ✓
- Shifts
- Adds
- None

68. In parser the two LL stand(s) for ____

- Left-to-right scan of input
- left-most derivation
- All of the given ✓
- None

69. Can a DFA simulate NFA?

- Yes ✓
- No
- Sometimes
- Depend upon NFA

70. The transition graph for an NFA that recognized the language $(a|b)^*abb$ will have following set of states.

- $\{0\}$
- $\{0, 1\}$
- $\{0, 1, 2\}$
- $\{0, 1, 2, 3\}$ ✓

71. Functions of Lexical analyzer are?

- Removing white space
- Removing constants, identifiers and keywords
- Removing comments
- All of given ✓

72. ____ method is known as subset construction method.

- NFA to DFA ✓
- DFA
- DFA maximization
- None

73. Which one is NOT the Role of Run-Time System?

- garbage collection
- memory management
- run time error checking
- None ✓

74. Compiler ____ information from one representation to another.

- modified

- translate ✓
- execute
- extract

75. Front-end of a two pass compiler is consists of scanner.

- True
- False ✓

76. Backtracking is a costly operation which is caused due to Left Recursion.

- True
- False ✓

77. AST summarizes the grammatical structure with the details of derivations.

- True
- False ✓

78. Backtrack is term associated with Top-down parsing.

- True ✓
- False