CC Gate Questions
Topics: Sessional 1 syllabus

Compiled for: 7th Sem, CE, DDU

Questions

1. GATE 2000 (count tokens)
2. GATE 2018 (sequence of tokens)
3. GATE 1995 (theoretical)
4. GATE 2011 (theoretical)
5. GATE 2011 (theoretical)
6. GATE 2008 (theoretical)

GATE 2000

- The number of tokens in the following C statement is
  printf("i = %d, &i = %x", i, &i);

GATE 2000

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ANSWER : 10

printf("i = %d, &i = %x", i, &i);

1. printf
2. (
3. "i = %d, &i = %x"
4. ,
5. i
6. ,
7. &
8. i
9.)
10. ;

GATE 2018

- A lexical analyzer uses the following patterns to recognize three tokens T_1, T_2, and T_3 over the alphabet {a,b,c}.

  T_1: a?(b|c)*a

  T_2: b?(a|c)*b

  T_3: c?(b|a)*c

  Note that 'x?' means 0 or 1 occurrence of the symbol x.

  Note also that the analyzer outputs the token that matches the longest possible prefix.

  If the string *bbaacabc* is processes by the analyzer, which one of the following is the sequence of tokens it outputs?

a) $T_1T_2T_3$ b) $T_1T_1T_3$ c) $T_2T_1T_3$ d) T_3T_3

GATE 2018

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INPUT : bbaacabc

T_1: a?(b|c)*a

T_2: b?(a|c)*b

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a) $T_1T_2T_3$ b) $T_1T_1T_3$ c) $T_2T_1T_3$ **d) T_3T_3**

With T_1 the longest match would be **bba**

With T_2 the longest match would be **bb**

With T_3 the longest match would be **bbaac**

bbaac → T_3

abc → T_3

GATE 1995

- In some programming languages, an identifier is permitted to be a letter following by any number of letters or digits. If L and D denote the sets of letters and digits respectively, which of the following expressions defines an identifier?

A. (L U D)+
B. L (L U D)*
C. (L.D)*
D. L(L.D)*

GATE 1995

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GATE 2011

- The lexical analysis for a modern computer language such as Java needs the power of which one of the following machine models in a necessary and sufficient sense?

A. Finite state automata
B. Deterministic pushdown automata
C. Non-Deterministic pushdown automata
D. Turing Machine

GATE 2011

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B. Deterministic pushdown automata
C. Non-Deterministic pushdown automata
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GATE 2011

- In a compiler, keywords of a language are recognized during

A. parsing of the program
B. the code generation
C. the lexical analysis of the program
D. dataflow analysis

GATE 2011

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GATE 2008

- Some code optimizations are carried out on the intermediate code because

A. they enhance the portability of the compiler to other target processors
B. program analysis is more accurate on intermediate code than on machine code
C. the information from dataflow analysis cannot otherwise be used for optimization
D. the information from the front end cannot otherwise be used for optimization

GATE 2008

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