

Compiler Design
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Assignment 01 (Week 01)

Q1. Which of the following is a stage of the compilation process?

- (A) Syntax analysis
- (B) Intermediate code generation
- (C) Code generation
- (D) All of the mentioned

Ans: D

Q2. A programmer writes instructions to multiply two numbers instead of adding them by mistake within a program. Which of the following is true in this context?

- (A) Lexical analysis phase of compilation process can detect the error
- (B) Syntax analysis phase of compilation process can detect the error
- (C) In code generation phase the error can be detected
- (D) This error cannot be detected by a compiler

Ans: D

Q3. Name the system program that is used to combine a program's several compiled modules into a executable form:

- (A) Interpreter
- (B) Assembler
- (C) Compiler
- (D) Linking Loader

Ans: D

Q4. The output of a lexical analyzer is:

- (A) A parse tree
- (B) Intermediate code
- (C) A stream of tokens
- (D) Machine code

Ans: C

Q5. How many lexemes are there in the following code:

```
int main( )  
{  
    printf("%d + %d = %d", 3, 1, 4);  
    return 0;  
}
```

- (A) 18
- (B) 20
- (C) 22
- (D) 24

Ans: B

Q6. Which of the following is/are true for RISC architecture?

- (A) Simplified instruction set leads to faster processing
- (B) Execution in a pipeline is not possible
- (C) Higher power consumption
- (D) Has simple addressing modes

Ans: A and D

Q7. Which particular task of compilation process uses *context free grammars (CFG)*?

- (A) Code optimization
- (B) Tokenization of input code
- (C) Parsing of tokenized input
- (D) None of the above

Ans: C

Q8. Which of the following machine model is necessary and sufficient for designing lexical analyzer?

- (A) Finite state automata
- (B) Pushdown automata
- (C) Turing machine
- (D) None of the above

Ans: A

Q9. Which of the following items are stored in the *symbol table*?

- (A) Variable names and constants from the source program
- (B) Procedure and function names from the source program
- (C) Label names present in the source program
- (D) All of the above mentioned

Ans: D

Q10. Suppose that the access time of an implemented symbol table is logarithmic. Then the symbol table has been implemented using:

- (A) Search tree
- (B) Linear list
- (C) Hash table
- (D) None of the above

Ans: A

Q11. Which of the following can be managed fully during compilation?

- (A) Static memory allocation
- (B) Dynamic memory allocation
- (C) Both (A) and (B)
- (D) Neither (A) nor (B)

Ans: A

Q12. Which of the following is NOT TRUE in the context of syntax analysis phase of compilation?

- (A) Input to the syntax analysis phase are tokens from lexical analyzer
- (B) Syntax analysis phase checks syntactic (grammatical) correctness
- (C) It checks if the input program can be derived from the start symbol of a grammar using the grammar rules
- (D) Syntax analysis phase can determine if a variable is declared before it is being used

Ans: D