

Multiple Choice Question

1. Which of the following is true for type system?
(a) It is a tractable syntactic framework.
(b) It uses logical rules to determine the behaviour of a program.
(c) It guarantees that only value specific operations are allowed.
(d) All of these
2. A type system can be _____ type system or _____ type system.
(a) Basic, constructed (b) Static, dynamic
(c) Simple, compound (d) None of these
3. Which of the following is true for type checking?
(a) It ensures type correctness.
(b) It can only be done at compile time.
(c) It can only be done at runtime.
(d) All of these
4. A type checking is called strongly typed if _____.
(a) It is performed at runtime.
(b) It is performed at compile time.
(c) The type checking rules are performed strongly.
(d) Both (a) and (b)
5. In type synthesis, the names must be _____.
(a) Declared after their use
(b) Declared before their use
(c) Need not be declared
(d) Depends on the parent expressions
6. Why type expressions are used?
(a) To free our program from errors
(b) To represent structure of types
(c) To represent textual representation for types
(d) Both (b) and (c)
7. Which of the following is not true for static type checking?
(a) It is performed at compile time.
(b) It catches errors at compile time.
(c) Most of the properties are verified at compile time.
(d) It provides flexibility of performing type conversions at runtime.
8. A strong type checking ensures that _____.
(a) No type errors can occur at compile time.
(b) No type errors can occur at runtime.
(c) Both (a) and (b)
(d) None of these

9. Implicit type checking is also known as _____.
(a) Casts (b) Explicit conversion
(c) Manual conversion (d) Coercion
10. A set of n variables stored in the symbol table implemented using an unordered array data structure takes _____ worst case time complexity for adding a symbol.
(a) $O(n)$ (b) $O(1)$ (c) $O(n \log_2 n)$ (d) $O(\log_2 n)$
11. A variable is said to be _____ if its value gets incremented or decremented every time by some constant.
(a) Induction variable (b) Dead (c) Liv (d) None of the above
12. _____ is the process of selecting a set of variables that will reside in CPU registers.
(a) Register assignment
(b) Register allocation
(c) Instruction selection
(d) None of these
13. Which of the following outputs can be converted into executable version by an assembler?
(a) Absolute machine language
(b) Relocatable machine language
(c) Assembly language
(d) None of the above
14. In _____ the bodies of the two loops are merged to form a single loop.
(a) Loop unrolling
(b) Strength reduction
(c) Loop concatenation
(d) Loop fusion
15. _____ are used to trace the location of the current value of the name at runtime.
(a) Register descriptors
(b) Address descriptors
(c) Both (a) and (b)
(d) None of these