

## Compiler Design Viva Questions and Answers PDF

### 1) What is compiler design?

Compiler design covers the basic translation mechanism. It also covers error detection & recovery. As the front end, It includes lexical, syntax, and semantic analysis. It also includes code generation and optimization as back-end.

### 2) List various types of compiler?

A compiler is a computer program that helps to transform a high-level language written source code into low-level machine language.

Various types of compilers are listed below:

- Single-Pass Compilers
- Two-Pass Compilers
- Multipass Compilers

### 3) What is assembler?

An assembler is a computer program that interprets assembly language written software programs into machine language that the computer understands.

### 4) What tools are used for compiler construction?

The tools used for compiler construction are as follows:

- Parser Generator
- Scanner Generator
- Syntax directed translation engines
- Automatic code generators
- Compiler construction toolkits
- Data-flow analysis engines

**Parser Generator** generates syntax analyzers from the input that is based on a grammatical description of programming language or on a context-free grammar.

**Scanner Generator** generates a finite automaton to recognize the regular expression.

**Syntax directed translation engines** produce intermediate code with three address formats from the input that consists of a parse tree.

**Compiler construction toolkits** supply an integrated set of routines. It also helps to build compiler components or in the construction of various phases of a compiler. Automatic code generators generate the machine language for a target machine.

**Data-flow analysis engines** gather the information, that is the values that flow from one part of a program to another.

### **5) What is bootstrapping in compiler design?**

In compiler design, Bootstrapping is a process in which simple language is used to translate more complicated programs. This complicated program can further handle even more complicated programs and so on.

### **6) What is yacc?**

Yacc stands for 'yet another compiler-compiler'. It is the standard parser generator for the Unix operating system.

### **7) What is Relocatable Machine Code?**

Relocatable machine code is instruction whose execution address can be changed.

### **8) What is Lexical analysis?**

Lexical analysis is the first phase of a compilation that is used to convert the input from a simple sequence of characters into a list of tokens of different kinds, such as numerical and string constants, variable identifiers, and programming language keywords.

### **9) What is Linker?**

The linker also called link editor is a program in a system that helps to link object modules of the program into a single object file. It performs the process of linking which is the process of collecting and maintaining pieces of code and data into a single file.

## **10) List some examples of compiler construction tools?**

Some examples of compiler construction tools are as follows:

- Parser Generator
- Scanner Generator
- Syntax directed translation engines
- Automatic code generators
- Compiler construction toolkits
- Data-flow analysis engines