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Lisp Interview Questions for Beginners

What is Lisp?

Lisp is the second-oldest high-level programming language. It is a dynamic and strongly typed programming language developed by Steve Russell, Timothy P. Hart, and Mike Levin in 1958.

Only Fortran is older, by one year. The commonly used general-purpose Lisp dialects are Clojure, Common, and Scheme.

Lisp was designed as a mathematical notation for machine programs, supported by Alonzo Church's lambda calculus model, and quickly became the favored programming language for artificial intelligence (AI) research. Moreover, Lisp pioneered in IT, including tree data arrays, predefined storage management, dynamic coding, higher-order functions, repetitions, self-hosting compiler, and read–eval–print loop.

Q1. What is LISP Programming

List Processing – LISP (or LISP) is the second oldest high-level programming language after Fortran developed by **John McCarthy** in 1958 while he was at the Massachusetts Institute of Technology (MIT). LISP is a commonly used language for artificial intelligence (AI) programming.LISP has changed since its early days, and many dialects have existed over its history. Today, the best known general-purpose LISP dialects are Common LISP and Scheme.

Q2. How many types of variables are available in LISP?

There are two types of variables are available in LISP one is **lexical variable**, and other is **special variable**

Q3. What is LISP Machine (LISPM)

LISP machines are general-purpose computers designed to efficiently run LISP as their main software and programming language, usually via hardware support. They are an example of a high-level language computer architecture, and in a sense, they were the first commercial single-user workstations.

Q4. Who is the Founder of LISP Programming

LISP was invented by **John McCarthy** in 1958.

Q5. What is the full form of LISP?

LISP stands for – List Processing – LISP (or LISP)

Q6. What is LG3 , How to pass commands to LG3

LG3 is a code Generator for LISP. It generates code that is easy to read and edit on the editor and run on any AutoCAD system.

You can pass commands to LG3 by selecting general operations from the tools menu.

Q7. Is LISP a functional programming language ?

No, Lisp is not pure-functional language.

Q8. For what LISP programming is used for

LISP programming language can be used for:

- Animation and Graphics
- Handling Bioinformatics devices.
- Creating B2b Marketplace.
- In Artificial Intelligence.
- Data Mining
- Electronic Design Automation (EDA)/Semiconductor applications
- Computer Aided Design (CAD)
- Modeling and Simulation
- Natural Language Processing

Q9. What is meant by symbolic expression in LISP?

A symbolic expression as S-expression, sexpr or sexp is a way to represent a nested list of data in LISP.

For example `(* 5 (+ 7 3))`

Q10. How many types of arguments are available in LISP?

4 types of arguments are available in Lisp Programming Language. They are

- Environment argument.
- Interaction argument.
- Evolution argument.
- Uniformity argument.

Q11. Which primitive in LISP tests two arguments to see if their values are the same expression?

Equal primitive in LISP tests two arguments to see if their values are the same expression. It works on both atoms and lists.

Q12. What is meant by keyword argument in LISP?

keyword argument are function arguments that are passed by keyword, instead of position.Keyword arguments can be mixed with by-position arguments, and default-value expressions can be supplied for either kind of argument:

```
(define greet
  (lambda (given #:last surname)
    (string-append "Hello, " given " " surname)))

> (greet "John" #:last "Smith")
"Hello, John Smith"
> (greet #:last "Doe" "John")
"Hello, John Doe"
```

In above example **last** is a keyword argument.

Q13. Which symbol is used to represent the prompt in LISP?

* symbol is used to represent the prompt in LISP.

Q14. Which notation facilitates uniformity in LISP?

Prefix notation facilitates uniformity in LISP.

Q15. What is the full form of fortran?

Fortran is a High-level programming language. The full form of Fortran is Formula Translation. This language was developed in the year 1957 by John Backus. Just like any other language it is also used for writing high-performance programs and is best suitable for numeric and scientific computing. It is mainly used for translating the maths formula into code.

Fortran is a very simple language and it can easily be transported to any machine. It has the capability of expressing even the complex functions of mathematics. This language has proved to be highly efficient in the world of coding and doesn't require any code layout like any other machine language.

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