

# Java Programming Questions

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1. Explain the purpose of the `static` keyword in Java. Provide an example to illustrate your explanation.
2. What is the difference between a `final` variable, a `final` method, and a `final` class in Java? Provide examples for each.
3. What is method overloading in Java? Provide an example demonstrating how method overloading can be used in a class.
4. Why can't a static method refer to "this" or "super"? Provide an example where this constraint is evident.
5. Explain the difference between `System.out.print`, `System.out.println`, and `System.err.print` in Java. Provide examples of situations where each would be used.
6. Write a Java method to insert a new node at the end of a singly linked list. Provide the complete implementation of the method.
7. Explain how insertion of a node at the beginning of a doubly linked list is different from that in a singly linked list. Provide the implementation for both.
8. Can a `final` class be extended in Java? Justify your answer with an example.
9. What is a static block in Java? Explain its use with an example where it is necessary to initialize static variables.
10. Write a method to delete a node from a singly linked list given only access to that node. Explain any constraints or assumptions made.