

### 23. What is static binding vs dynamic/runtime binding?

- Static binding is overloading, and dynamic binding is method overloading

### 24. What is Access modifier and what are the different access modifiers?

- Java provides a number of access modifiers to set access levels for classes, variables, methods, and constructors.
  - Visible to the package, the default. No modifiers are needed.
  - Visible to the class only (private).
  - Visible to the world (public).
  - Visible to the package and all subclasses (protected).

### 25. Difference between Public, Private and Protected modifier in Java?

- In Java, access modifier which specifies accessibility of class, methods and variables. There are four access modifiers in Java namely Public, Private, Protected and Default.
- The difference between these access-modifiers is that;
  - The most importantly is the level of accessibility.
  - Public is accessible to anywhere
  - Private is only accessible in the same class which is declared
  - Default is accessible only inside the same package
  - Protected is accessible inside the same package and also outside the package but only the child classes.
- We cannot use private or protected modifier with a top--level class.
- We should also keep in mind that access modifier cannot applied for local variable public, private or protected in Java.

### 26. Difference between Set, List and Map in Java?

- Set, List and Map are 3 important interface of Java collection framework.
  - List provides *ordered* and indexed collection which *may contain duplication* .
  - Set provides *un-ordered* collection of unique objects. Set *doesn't allowed duplication* . List and Set are both extend collection interface.
  - Map provides a data structure based on Key Value. Key is always unique, value can be dupl.

### 27. When to use List, Set and Map?

- If we need to access elements frequently by using index, List is a way to go ArrayList provides faster access with index.
- If we want to store elements and want them to maintain an order, List is an ordered collection and maintains order.
- If we want to create collection of unique elements without duplicates than choose any Set implementation. (HashSet...)
- If we want store data in form Key and Value than Map is the way to go. We can choose from HashMap, Hashtable...

### 28. What is Array?

- An array is a container object that holds a fixed number of values of a single type. The length of an array is established when the array is created. After creation, its length is fixed. You have seen an example of arrays already, in the main method of the "Hello World!" application. This section discusses arrays in greater detail.
- Each item in an array is called an element, and each element is accessed by its numerical index. As shown in the preceding illustration, numbering begins with 0. The 9th element, for example, would therefore be accessed at index 8.
- **Advantage of Java Array**
  - Code Optimization: It makes the code optimized, we can retrieve or sort the data easily.
  - Random access: We can get any data located at any index position.
- **Disadvantage of Java Array**
  - Size Limit: We can store only fixed size of elements in the array. It doesn't grow its size at runtime. To solve this problem, collection framework is used in java.