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Batch: Morning

Topic: Core Java

## What is inheritance explain with example?

If a class inherits the properties of parent class is called as inheritance. And creating hierarchy between classes. It is implemented using extends key word.

Example: Department extends University, and Classes extends Department

## What is runtime polymorphism explain? with an example.

Runtime polymorphism occurs when your calling overridden method. An runtime polymorphism is a process in which a call to overriding method is resolved during runtime.

Example: I have created parent class “Parent” and Child class “Child” which extends parent class “Parent ”. Demo is in project zip -> package name is runtimePolymorphism

## What is the difference between protected and default access modifiers?

Protected: Protected data member and method are only accessible by the classes of the same package and the subclasses present in any package.

Default: The scope of this object limit to package, classes which are in same package can access this class. In the same way if method or variable is default it is visible only to classes in the same package.

## Demo the difference between static and instance variables with an example?

Demo: is in project zip -> package name is staticAndInstanceVariables

## Write detailed comparison between Array vs ArrayList vs LinkedList?

Array is a fixed length data structure. you cannot use Generics along with Array. ArrayList is implemented as a resizable array. As more elements are added to ArrayList, its size is increased dynamically. It's elements can be accessed directly by using the get and set methods, since ArrayList is essentially an array. LinkedList is implemented as a double linked list. Its performance on add and remove is better than Arraylist, but worse on get and set methods

## Write a program to implement hash map using array/array list? Include a case where we dome collision?

Program is in project zip -> package name is hashMapUsingArrayList

## Create a list of employee object with name, id, age. Create two collection of employee object sort collection based on their age and another using id?

Program is in project zip -> package name is collectionSort

## Implement a stack using linked list?

Program is in project zip -> package name is stackUsingLinkedlist

## Write a program to demo try/catch/ finally block and exception propagation using throws keyword?

## Write a custom exception to demo throw keyword?

## Demo with an example improvement in performance when use multithreading?

## Demo with an example of deadlock condition and race condition?

## Programs

Programs are in project zip -> package name is programs