String objects in the swtich statement, binary literals, numeric literals, including underscores trv-with-resources, AutoCloseable interface Language Enhancements Multiple exception types in a single catch block static and default methods of an interface, inheritance rules for a default method Operate on file and directory paths by using the Paths class Check, delete, copy, or move a file or directory by using the Files class recursively access a directory tree by using the DirectoryStream and FileVisitor interfaces Java File I/O (NIO.2) Find a file by using the PathMatcher interface, and use Java SE 8 I/O improvements, including Files, find(), Files.walk(), and lines() methods 170-813 Observe the changes in a directory by using the WatchService interface Develop code that uses diamond with generic declarations Develop code that iterates a collection, filters a collection and sorts a collection by using lambda expressions Search for data by using methods, such as findFirst(), findAny(), anyMatch(), allMatch(), and noneMatch Perform calculations on Java Streams by using count, max, min, average, and sum methods and save results Java Collections to a collection by using the collection method and Collector class, including the averagingDouble, groupingBy, joining, partitioningBy methods Develop code that uses Java SE 8 collection improvements, including the Collection, removelf(). List.replaceAll(), Map.computeIfAbsent(), and Map.computeIfPresent() methods Develop code that uses the merge(), flatMap(), and map() methods on Java Streams

use classes from the java.util.concurrent package including CyclicBarrier and CopyOnWriteArrayList. Advantages over and differences from the traditional java.util collections. Use Lock ReadWriteLock, and ReentrantLock classes in the java.util.concurrent.locks and Concurrency java util concurrent atomic packages to support lock-free thread-safe programming on single variables Use Executor, ExecutorService, Executors, Callable, and Future to execute tasks using thread pools Use the parallel Fork/Join Framework Advantages of localizing, Locale object Build a resource bundle for a locale and call a resource bundle from an application Creat eand manage date-and time-based events by using Localdate, LocalTime, LocalDateTime, Instant, Localization Period, and Duration, including a combination of date and time in a single object Formate date, s numbers, and currency values for localization with the NumberFormat and DateFormat classes, including number and date format patterns Work with dates, and times across time zones and manage changes resulting from daylight savings Define and write functional interfaces and describe the interfaces of the java.util.function package Describe a lambda expression; refactor the code that uses and anonymous inner class to use a lambda expression; describe type inference and target typing Lambda Develop code that uses the build-in interfaces included in the java.util.function package, such as Function, Consumer, Supplier, UnaryOperator, Predicate, and Optional APIs, including the primitive abinary variations of the interfaces Develop code that uses a method reference, including refactoring a lambda expression to a method reference

Java Streams

Describe the Stream interface and ppipelines; Create a stream by using the Arrays.stream() and intStream.range() methods; identify the lambda operations that are lazy

Develop codetaht usess parallel streams, including decomposition operation and reduction operation in