Questions

1. String and it method related, concat(), replace()

- Yes, it work with String

- Yes, it returns new String, with concat, etc

2. Can we over ride main method?

- No

3. Access modfifiers in packages? which is accessible and where?

- https://www.javatpoint.com/access-modifiers

Understanding Java Access Modifiers

Let's understand the access modifiers in Java by a simple table.

Access Modifier	within class	within package	outside package by subclass only	outside package
Private	Y	N	N	N
Default	Y	Y	N	N
Protected	Y	Y	Y	N
Public	Y	Y	Y	Y

1) Private

```
//save by A.java
package pack;
class A{
  void msg(){System.out.println("Hello");}
}
```

```
//save by B.java
package mypack;
import pack.*;
class B{
  public static void main(String args[]){
   A obj = new A();//Compile Time Error
   obj.msg();//Compile Time Error
  }
}
```

4. How is map internally stored?

https://www.youtube.com/watch?v=wZLn2BN1TvY

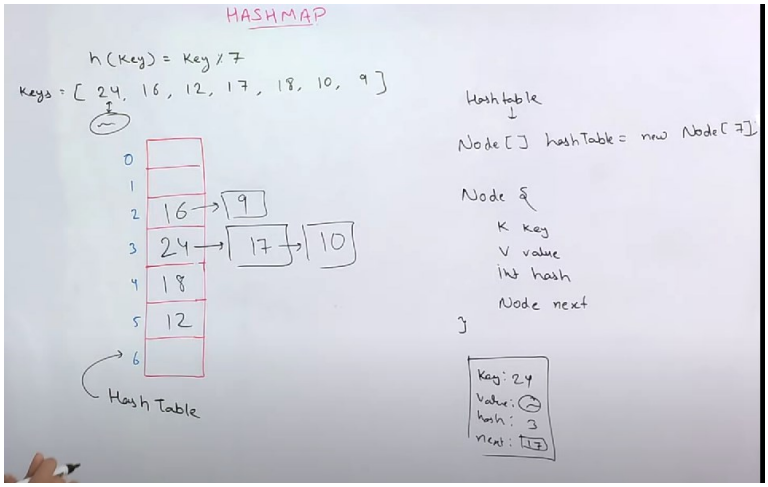
https://medium.com/javarevisited/internal-working-of-hashmap-in-java-97aeac3c7beb#:~:text=Working%20Of%20hashmap%3A-,HashMap%20uses%20its%20static%20inner%20class%20Node,new%20entry%20can%20be%20added.

The HashMap class does not preserve the order of insertion of entries into the map.

HashMap has multiple buckets or bins which contain a head reference to a singly linked list. That means there would be as many linked lists as there are buckets. Initially, it has a bucket size of 16 which grows to 32 when the number of entries in the map crosses the 75%. (That means after inserting in 12 buckets bucket size becomes 32)

HashMap is almost similar to Hashtable except that it’s unsynchronized and allows at max one null key and multiple null values.

Insert



5. throw custom exception eg. if we encountered NPE, but we still has to throw IlleagalArgException how can we achieve this?

Revision.java DemoIP.java

```
1  package ioBasics;
2
3  public class Revision {
4      public static void main(String[] args) {
5          getExp();
6
7      }
8      static void getExp() {
9          try {
10             int i = 1/0;
11         }
12         catch(ArithmeticException e) {
13             throw new IllegalArgumentException("Custom exp");
14         }
15     }
16 }
17
```

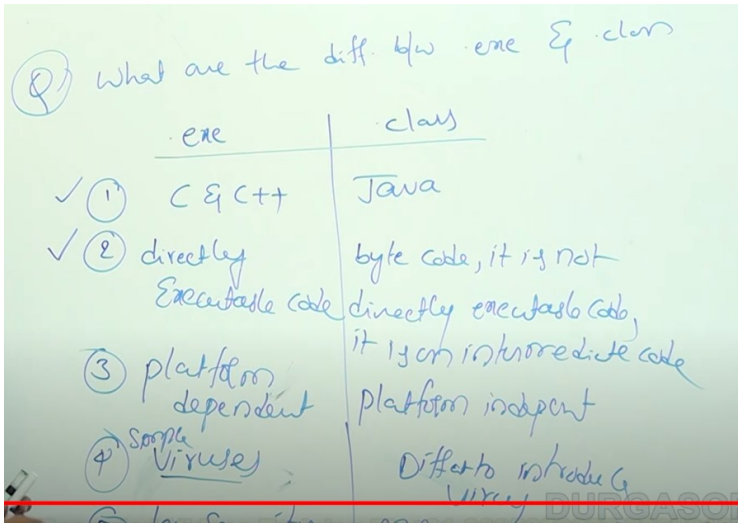
Outline Console Servers Snippets

<terminated> Revision [Java Application] C:\Program Files\Java\jdk-13.0.2\bin\javaw.exe (08-Apr-2022, 12:05:35 pm – 12:05:35 pm)

```
Exception in thread "main" java.lang.IllegalArgumentException: Custom exp
        at ioBasics.Revision.getExp(Revision.java:15)
        at ioBasics.Revision.main(Revision.java:6)
```

6. Difference between C & Java wrt Platform dependent? how can it be useful?

https://www.youtube.com/watch?v=_gUr7W02LY8

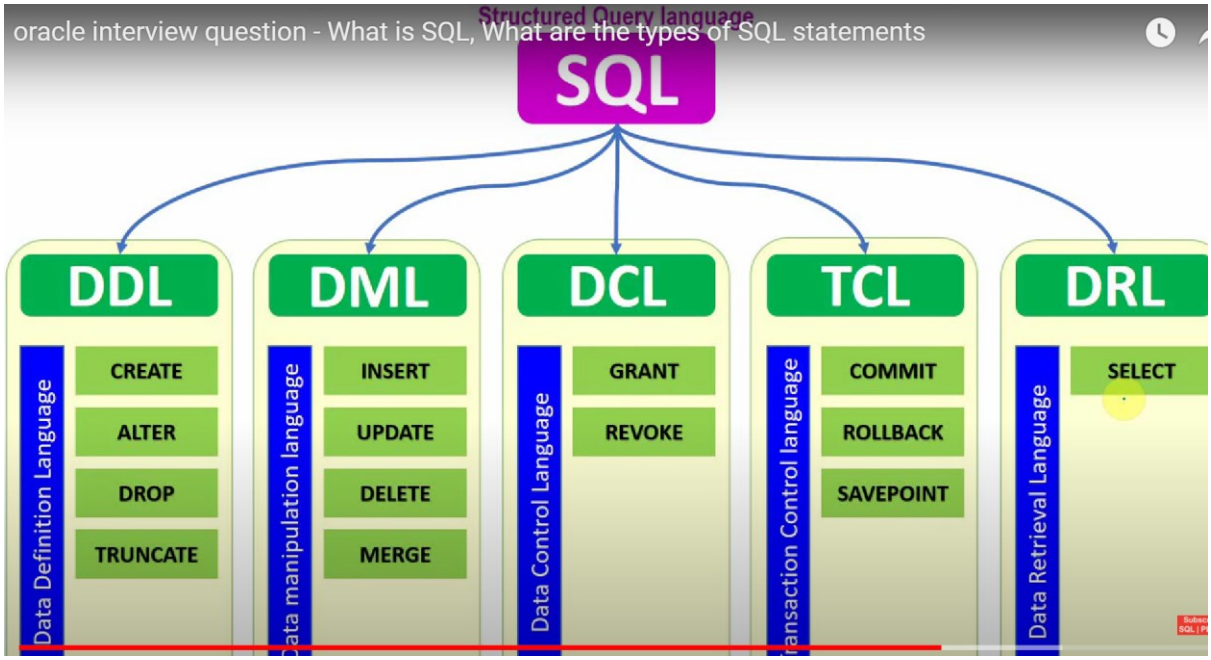


7. Why is C++ not platform independent?

Above ans

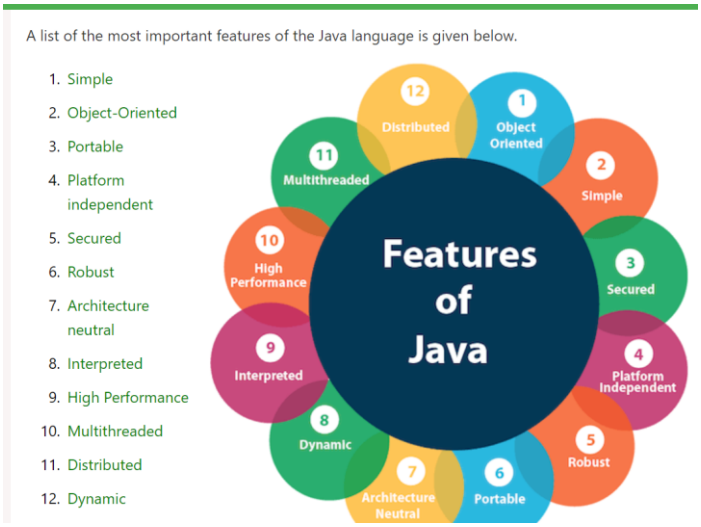
Other Java topics

1. SQL? DML, DDL



2. Features of Java?

https://www.tutorialspoint.com/What-are-the-major-features-of-Java-programming



Multithreading etc? Thread life cycle

https://www.javatpoint.com/multithreading-in-java

https://www.youtube.com/watch?v=TCd8QIS-2KI

3. Better example of abstraction, encapsulation? Why is it needed?

4. Spring, Spring Boot, Spring Cloud, Microservices, Hibernate? Dockers?

Spring, Spring Boot done, Docker, Hibernate left

5. String Argument? input?

Hi Hello -> len(args[]) = 2

“Hi Hello” -> len(args[]) = 1

“Hi” “Hello” -> len(args[]) = 2

6. test methods in Junit, modifier for same?

https://www.javatpoint.com/junit-tutorial

https://www.guru99.com/junit-annotations-api.html

7. SuitClassAnnotation() -> method signature

https://www.tutorialspoint.com/junit/junit_suite_test.htm

Create Test Suite Class

- Create a java class.
- Attach @RunWith(Suite.class) Annotation with the class.
- Add reference to JUnit test classes using @Suite.SuiteClasses annotation.

Create a java class file named **TestSuite.java** in C:\>JUNIT_WORKSPACE to execute test case(s).

```
import org.junit.runner.RunWith;
import org.junit.runners.Suite;

@RunWith(Suite.class)

@Suite.SuiteClasses({
   TestJunit1.class,
   TestJunit2.class
})

public class JunitTestSuite {
}
```

Create Test Runner Class

Create a java class file named **TestRunner.java** in C:\>JUNIT_WORKSPACE t execute test case(s).

```
import org.junit.runner.JUnitCore;
import org.junit.runner.Result;
import org.junit.runner.notification.Failure;

public class TestRunner {
   public static void main(String[] args) {
      Result result = JUnitCore.runClasses(JunitTestSuite.class);

      for (Failure failure : result.getFailures()) {
         System.out.println(failure.toString());
      }

      System.out.println(result.wasSuccessful());
   }
}
```

Compile all the java classes using javac

Web services methods in servlet?

8. SOAP / REST

https://youtu.be/_fq8Ye8kodA

https://stackify.com/soap-vs-rest

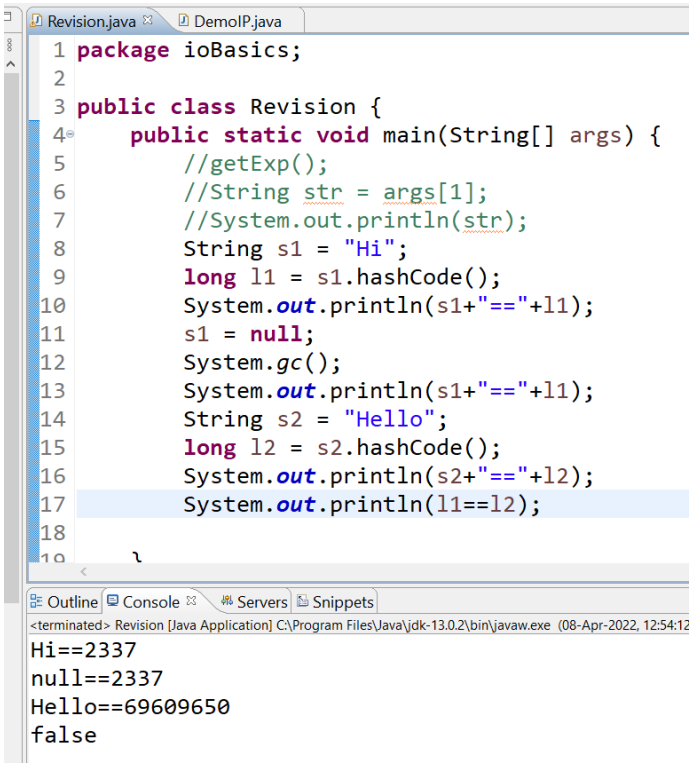
https://www.youtube.com/watch?v=TvGLm7BijJY

#	SOAP	REST
1	A XML-based message protocol	An architectural style protocol
2	Uses WSDL for communication between consumer and provider	Uses XML or JSON to send and receive data
3	Invokes services by calling RPC method	Simply calls services via URL path
4	Does not return human readable result	Result is readable which is just plain XML or JSON
5	Transfer is over HTTP. Also uses other protocols such as SMTP, FTP, etc.	Transfer is over HTTP only
6	JavaScript can call SOAP, but it is difficult to implement	Easy to call from JavaScript
7	Performance is not great compared to REST	Performance is much better compared to SOAP - less CPU intensive, leaner code etc.

9. How are both transported? Transport Portion

Above

10. String s1 has HashCode (long l), s1==null, After calling GC, what happens to code l1?



11. Spring @NamedQuery?

https://www.javatpoint.com/hibernate-named-query

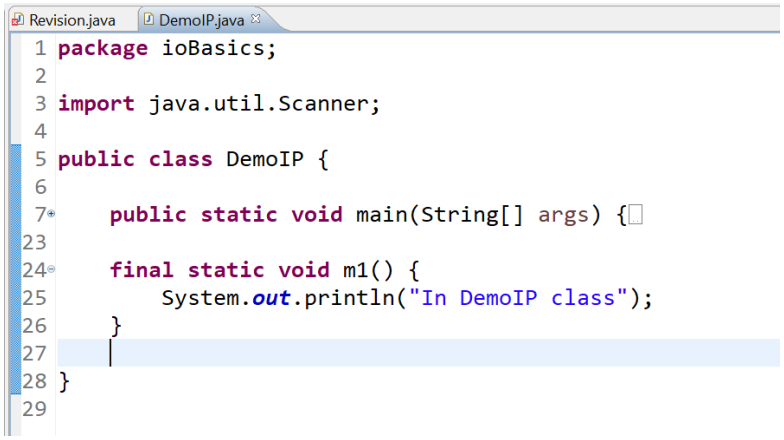
Hibernate

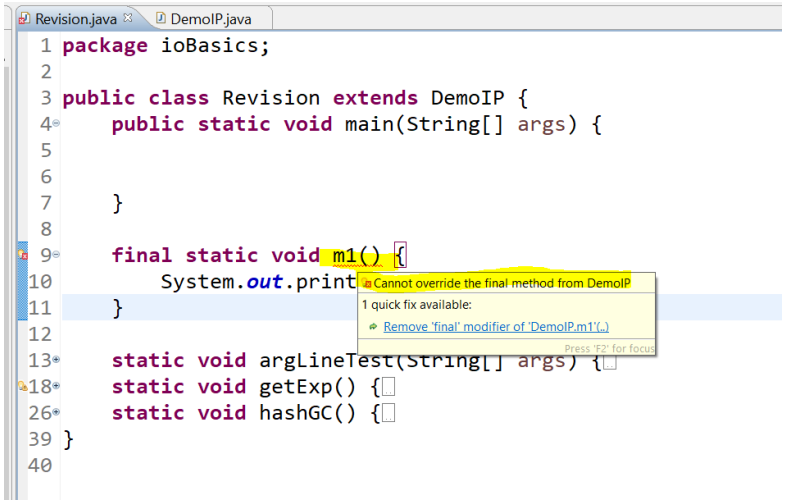
12. HTTP status 204

The HTTP 204 No Content success status response code indicates that a request has succeeded, but that the client doesn't need to navigate away from its current page.

https://developer.mozilla.org/en-US/docs/Web/HTTP/Status

13. Can final static method overrided?





14. POM Project Object Model, start tag?

https://maven.apache.org/guides/introduction/introduction-to-the-pom.html

The minimum requirement for a POM are the following:

- `project` root
- `modelVersion` - should be set to 4.0.0
- `groupId` - the id of the project's group.
- `artifactId` - the id of the artifact (project)
- `version` - the version of the artifact under the specified group

Here's an example:

```
<project>
  <modelVersion>4.0.0</modelVersion>

  <groupId>com.mycompany.app</groupId>
  <artifactId>my-app</artifactId>
  <version>1</version>
</project>
```

A POM requires that its groupId, artifactId, and version be configured. Thes

15. Constructor (Private and public static, which is called?)

Revision.java | DemoIP.java

```
1  package ioBasics;
2
3  public class Revision extends DemoIP {
4
5      public static Revision() {
6
7      }
8
9      //private Revision() {
10
11     //}
12
13     public static void main(String[] args) {
14
15
16     }
17
```

Illegal modifier for the constructor in type Revision; only public, protected & private are permitted
1 quick fix available:
Remove invalid modifiers
Press 'F2' for focus

16. SQL - SUM, MAX

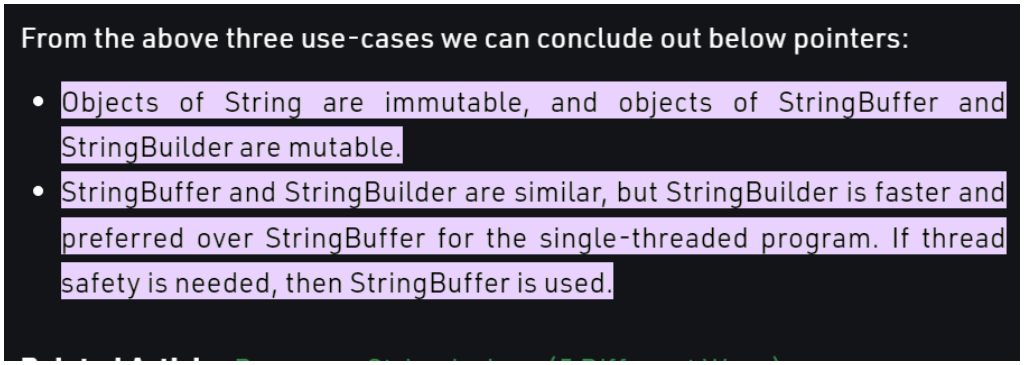
17. String, StringBUffer – Immutable

https://www.javatpoint.com/difference-between-stringbuffer-and-stringbuilder

No.	StringBuffer	StringBuilder
1)	StringBuffer is *synchronized* i.e. thread safe. It means two threads can't call the methods of StringBuffer simultaneously.	StringBuilder is *non-synchronized* i.e. not thread safe. It means two threads can call the methods of StringBuilder simultaneously.
2)	StringBuffer is *less efficient* than StringBuilder.	StringBuilder is *more efficient* than StringBuffer.
3)	StringBuffer was introduced in Java 1.0	StringBuilder was introduced in Java 1.5

StringBuffer Example

https://www.geeksforgeeks.org/string-vs-stringbuilder-vs-stringbuffer-in-java/



String.replace(), concat() methods return a new string with respective operation, while original is immutable always

18. Mock obj in Junit

https://springframework.guru/mocking-unit-tests-mockito/

19. how to read XML file in Java

https://www.javatpoint.com/how-to-read-xml-file-in-java

Reading XML file in Java is much different from reading other files like .docx and .txt because XML file contains data between the tags. Java provides many ways to parse an XML file. There are two parsers in Java which parses an XML file:

Java DOM Parser

Java SAX Parser

20. different view, same mapping?

21. Delete vs truncate vs drop

https://www.geeksforgeeks.org/difference-between-delete-and-truncate/

S.NO	Delete	Truncate
1.	The DELETE command is used to delete specified rows(one or more).	While this command is used to delete all the rows from a table.
2.	It is a DML(Data Manipulation Language) command.	While it is a DDL(Data Definition Language) command.
3.	There may be a WHERE clause in the DELETE command in order to filter the records.	While there may not be WHERE clause in the TRUNCATE command.
4.	In the DELETE command, a tuple is locked before removing it.	While in this command, the data page is locked before removing the table data.
5.	The DELETE statement removes rows one at a time and records an entry in the transaction log for each deleted row.	TRUNCATE TABLE removes the data by deallocating the data pages used to store the table data and records only the page deallocations in the transaction log.
6.	DELETE command is slower than TRUNCATE command.	While the TRUNCATE command is faster than the DELETE command.
7.	To use Delete you need DELETE permission on the table.	To use Truncate on a table we need at least ALTER permission on the table.
8.	Identity of column retains the identity after using DELETE Statement on the table.	Identity the column is reset to its seed value if the table contains an identity column.

Other

22. Proxy server?

https://www.fortinet.com/resources/cyberglossary/proxy-server

Coding: