COLLECTIONS:

1. **WHAT ARE THE COLLECTIONS RELATD IN JAVA8?**

**Java api stream** which supports sequential and parallel process

Iterator interface is extended with foreach() default method.

Map replaceall(), compute(), merge().

1. **BENEFITS OF GENERICS?**

Gnerics allows us to provide the type of object that a collection can contain, if u try to add another element it throws error. If you use generics then it avoids classcastexception in runtime, and no need to add casting.

1. **Basic interfaces of java collection framework?**

Collection, set, list, map, stack, queue etc..

1. **Why collection doesnot extend clonable and seriablle?**

Collection specifies group of ojects called elements, how the elements are maintained is left up to the concrete implementation of collections. One implementation of list allows dupliacts and other set doesnot.Collection implementations have clone() public but it will not include in all implementation of collection because the collection implemennation is a abstract.so concrete implementation is decide how to be cloned and seriable and its not manadatary to have clonoble and sriable in all implentations of collection and the specific implenation of collection will decide whther it should be clonabl eand seriazable.

1. **Why map interface doesnot extend collection?**

Map and its implementation is a part of collections framework, map is not a collection and collction is not a map. Map provides the key-value pair, it will provide a method to retriev the key-value as collection but it doesnotinclude in the elements paeradigm.

1. **ITERATOR?**

Iterator interface provides a mthod to iterate over any collection, we can get iterator instance from collection using iterator()method. It takes place of enumeration in java collection framework. It also provides to remove an element from the underlying collection during the collecton.

1. **DIFF BTWN THE ITERATOR AND ENUMERATION?**

Enumeration is twice better then the iterator like faster and takes less memory. But iterator is safer then the enumeration it denies the other thrad to modify the collection that is being iterated by it. And iterator allows to rmove an element from underlying collection which is not possible in enumeration.

1. **DIFF BTWN THE ITERATOR AND LISTITERATOR**:

Iterator can traverse set and list and listiterator will traverse onllllly list.

Iterator can traverse forward direction only, listiterator will be for both direction.

Listiterator inherits from iterator comes withextra functionalities lik adding and element, replacement an element,getting index position.

1. **DIFF WAYS TO ITERATE OVER LA LIST?**

2-ways:

By foreachloop and iterator()

List<string> str = new arraylist();

//For(string obj : str)

s.o.pln(obj);

//iterator it = str.iterator();

While(it.hasnext())

s.o.pln(it.next);

it will throw **currentmodificationexception** when an underlying element is modified.

1. **DIFE BTWN FAIL-FAST AND FAIL-SAFE METHOD?**

Fail fast throws an **currentmodificationexception**  error where as fail-safe doesnot, all the collection classes in java.utill are fail-fast and all in java.util.concurent are fail-safe.

1. **WHAT ARE CONCURENT CLASSES?**

Concuren classes are those which are thread-safe that is used for multithread and are fail-fast which can be available in java.util which are synchronization throws concurentmodificationexception.

Ex: arraylist, hashtable, treemap.

1. **BLOCKING QUEUE?**

Queue supports an operation that waits for quue to become nonempty when retrieving and removing the element. And check for the place to add an element.

Blocking queue is a part of collection framework used for implementing the consumer and producer problem.here no need to wait for empty space. Arrayblockingqueue, linkedblockingqueue.

1. **Comparable and comparator?**

Both are used for sorting the objects, comparable uses the compareto() method to sort single logic where as comparator uses the compare(obj1, obj2) method to compare multiple logics.

1. **How to sort an element?**

To sort an array can use array.sort() and for the list of objects we can use collection.sort().

1. **W can make sure that when we use collections asa argumrnts to function** is unmodified like w need to make readonly collection like using collection,unmodifiedablecollection(collection) by using this when u try to modify it will throw **unmodifiedoperationexception error.**
2. **BIG-O NOTATION?**

Is used for testing the performance eof algorithm in datastructure, in collections we use he big-o notation to list of elements based on the time, mwmory and performance of the algorithm.

1. **Priority queue is nota thread safe.**

Testing tools to test the rest and soap is **SOAPUI**,

And **chrome advanced rest client** is for the rest web serivise.

If you want an import the existing project select files -> import -> select existing maven project -> cliek on project select maven clean - > maven install -> run on servre.

If you get any problems change the jdk version inpom.xml

1)ADVANTAGES OF WEBSERVICE:

**Extensiblity**:can extend a product

, **loosly** **coupling**: if u want to switch other vrsion and

**interogibility**: run on different platforms.

Mashup:mix

2 java standards to implement soap and rest are standards are: jax-ws and jax-rs

3) the 2 web services are soap and rest.

**SOA** is a service oriented architecture is a set of principles to implement this we use web services.

It uses xml to exchange the data and for soap it uses wsdl and for rest it uses wadl.

ADVANTAGES OF SOA: flexibility and scalability, adaptability and loose coupling, platform indepence.

Webservices uses the http protocol and to exhange the data it uses xml.

**Xml** is used for both congiration and for data exchange and also manipulates the data.4

Xml which follows the xsd is called valid file

**SOAP**: contains the xml to request and get the response.

Contains the structure in which like

<envelope>: root element in the soap

<header>: will contain the meta data

<body>:will contain the request and response

<creditcard> all the information will contain here

</creditcard>

</body>

</header>

</envelope>

<body>

< fault> contains all error information which will sent to user.

<reason> will contain the reason

**WSDL**: IT’S A contract between webservices provider and consumer file.

and is saved with .wsdl

wsdl is used for how it provides it and how u can consume it.

It contains 2 portion abstract and physical.

**Definition** : is the root element of wsdl in which all other elements will lie.

**And abstraction portion will tells u what service it provides:**

Types

Messages: is equivalent to method parameters in p

Operation

Porttype: will connects the concrete and abstract section of wsdl.it wraps all the operations,

**Physical section contains 2 elements**

Binding

’service

tells how to consume it.

Different styles in binding portion:

See the which wsdl style should I use ibm for interview questions

Styles

1)RPC/encoded

2)RPC/literal

3)document/encoded

4)document/literal.

By this styles are used for payload operations and it can be validate or not

**SOAP WS DESIGN**

1)top down or wsdl first or contract first: is bettr when

2) code first or bottom up