Dt : 5/10/2023

faq:

define Iterator<T>?

=>Iterator<T> is an interface from java.util package and which is used to retrieve elements from Collection<E> objects in forward direction.

=>The following are some important methods from Iterator<E>:

```
public abstract boolean hasNext();
public abstract E next();
public default void remove();
public default void forEachRemaining
                (java.util.function.Consumer<? super E>);
```

hasNext() : method will move the cursor on Collection<E> objects and check element available or not.

next() : method will retrieve the element from Collection<E> object.

remove() : method will delete element from Collection<E> Object

forEachRemaining() : method will use LambdaExpression to retrieve the elements.

=>we use iterator() method to create implementation object for Iterator<E> interface.

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syntax:

Iterator<Class_name> it = ob.iterator();

faq:

define Spliterator<T>?

=>Spliterator<T> is an interaface from java.util package introduced by Java8 version and which is used to retrieve elements from Array and Collection<E> Objects.

=>The following is one important method from Spliterator<T>:

public default void forEachRemaining

(java.util.function.Consumer<? super T>);

=>we use spliterator() method to create the implementation object for Spliterator<E> interface.

syntax:

Spliterator<Class_name> sp = ob.spliterator();

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Ex-program: DemoSet2.java

```
package p2;
import java.util.*;
public class DemoSet2 {
     @SuppressWarnings("removal")
     public static void main(String[] args) {
```

```
        Scanner s = new Scanner(System.in);
        try(s;){
        try {
             LinkedHashSet<Integer> ob =
                       new LinkedHashSet<Integer>();
             System.out.println("Enter the number ele to
be added to Set:");
             int n = s.nextInt();
             System.out.println("Enter "+n+" Integer
eles:");
             for(int i=1;i<=n;i++)
             {
                  ob.add(new Integer(s.nextInt()));
             }//End of loop
             System.out.println("====Elements from
Set====");
             System.out.println(ob.toString());
             System.out.println("====Prime Numbers from
Set====");
             Iterator<Integer> it1 = ob.iterator();
             while(it1.hasNext())
             {
                Integer el = it1.next();
                int count=0;
                for(int i=1;i<=el;i++)
                {
                    if(el%i==0)
                    {
                         count++;
                    }
                }//end of loop
                if(count==2)
                {
                System.out.print(el.toString()+" ");
                }
             }//end of loop
             System.out.println("\n====Display Even
numbers from Set===");
             Spliterator<Integer> sp = ob.spliterator();
             sp.forEachRemaining((k)->
```

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```
            {
                Integer el = k;
                if(el%2==0)
                {
                System.out.print(el.toString()+" ");
                }
            });
            System.out.println("\n====Original eles in
Set====");
            System.out.println(ob.toString());
            System.out.println("Size of Set :
"+ob.size());
            System.out.println("\n====After removing
even number====");
            Iterator<Integer> it2 = ob.iterator();
            while(it2.hasNext())
            {
                Integer el = it2.next();
                if(el%2==0)
                {
                    it2.remove();
                }
            }//end of loop
            System.out.println(ob.toString());
            System.out.println("Size of Set :
"+ob.size());
            System.out.println("===Iterator<E>-
forEachRemaining()===");
            Iterator<Integer> it3 = ob.iterator();
            it3.forEachRemaining((k)->
            {
                Integer el = k;
                System.out.print(el.toString()+" ");
            });
        }catch(Exception e) {e.printStackTrace();}
        }//end of try with resource
    }
}
```

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o/p:

Enter the number ele to be added to Set:

10

Enter 10 Integer eles:

11

12

13

14

15

16

17

18

19

20

====Elements from Set====

[11, 12, 13, 14, 15, 16, 17, 18, 19, 20]

====Prime Numbers from Set====

11 13 17 19

====Display Even numbers from Set===

12 14 16 18 20

====Original eles in Set====

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[11, 12, 13, 14, 15, 16, 17, 18, 19, 20]

Size of Set : 10

====After removing even number====

[11, 13, 15, 17, 19]

Size of Set : 5

===Iterator<E>-forEachRemaining()===

11 13 15 17 19

Diagram:

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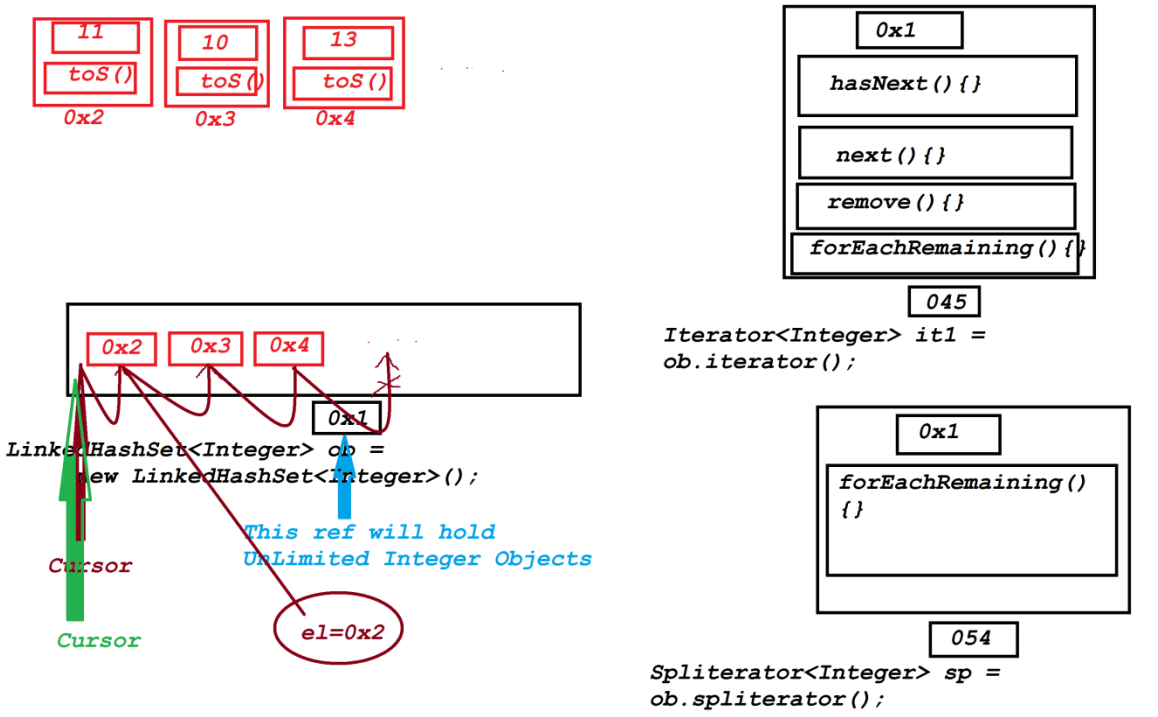

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Assignment:

wap to read n Strings and display,

set1 : Holding all Strings

set2 : Holding Strings Started with Vowels

set3 : Holding Strings Started with Consonents

Assignment:

wap to read a String and display the String without duplicate characters?

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