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12/08/24

ASSignment - 3.

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CSA0985

- Java

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collection in java:-

A collection represents a single unit of objects.

i) List :-

Array List
Linked List
vector
Stack

ii) Queue

priority Queue
Deque
Array Queue

iii) Set

Hashset
LinkedHashset
Sortedset
Tree set.

iv) ArrayList :-

```
import java.util.*;
class main{
public static void main(String args[]){
    ArrayList<String> List = new ArrayList<>();
List.add("Ravi");
List.add("Vijay");
List.add("Ajaj");
```

```
Iterator itr = list.iterator();
while (itr.hasNext()){
    System.out.println (itr.next());
  }
}
}
```

output.

Ravi

vijay

Ajay

ii) Linked List

```
import java.util.*;
class main{
  public static void main (String args[]){
    LinkedList<String> al = new LinkedList<>();
    al.add("Ajaj");
    al.add("Ravi");
    al.add("vijay");
    Iterator<String> itr = al.iterator();
    while (itr.hasNext()){
        System.out.println(itr.next());
    }
  }
}
```

output.

Ajay

Ravi

vijay

i) vector

```
import jar.util.*;

class Main {
    public static void main(String [] args){
        vector <String> v = new vector<>();
        v.add ("Ravi");
        v.add ("Amit");
        v.add ("Ajay");
        Iterator <String> itr = v.iterator();
        while (itr.hasNext()){
            System.out.println(itr.next());
        }
    }
}
```

output

```
Ravi
Amit
Ajay
```

stack

```
import java.util.*;

class Main {
    public static void main(String [] args){
        stack <String> s = new stack<>();
        s.push ("Ravi");
        s.push ("gopi");
        s.push ("lokki");
        s.push ("Amit");
```

```
stack.pop()
Iterator<String> itr = stack.iterator();
while (itr.hasNext()){
    System.out.println(itr.next());
  }
 }
}
```

priority queue :-

Raki

gopi

loki

priority queue :-

```
import java.util.*;

class Main{
    public static void main(String[] args){
    priority queue<String> queue = new priorityQueue<>
    queue.add("Amit");
    queue.add("Raj");
    queue.add("Raki");
    System.out.println("head:"+queue.element());
    System.out.println("head:"+queue.peek());
    System.out.println("iterating elements:");
    Iterator i = queue.iterator();
    while(i.hasNext()){
      System.out.println(i.next());
    }
  }
}
```

Output :-

peek : Anit

head : Anit

iterating elements :

Anit

Raj

Ravi.

Deque :-

```
import java.util.*;

class Main {
  public static void main( String [] args){

  Deque<String> d = new ArrayDeque<String>();

  d.add("Ravi");
  d.add("gopi");
  d.add("Raj");
  for (String str : deque){
    system.out.println(str);
    }
  }
}
```

output

Ravi

gopi

Raj

```
import java.util.*;
class main{
    public static void main(String[] args){
        TreeSet<String> s = new TreeSet<>();
        s.add("Ravi");
        s.add("gopi");
        s.add("Raj");
        Iterator<String> i = s.Iterator();
        while(i.hasNext()){
            System.out.println(i.next());
        }
    }
}
```

output:-

Ravi

gopi

Raj

hash set:-

```
import java.util.*;
class main{
    public static void main(String[] args){
        HashSet<String> set = new HashSet<>();
        set.add("Ravi");
        set.add("Raj");
        set.add("gopi");
```

```
Iterator<String> i = set.iterator();
while(i.hasNext()){
    System.out.println(i.next());
  }
 }
}
```

Linked Hashset

```
import java.util.*;

class main{
  public static void main(String[] args){
    LinkedHashSet<String> set = new LinkedHashset<>(
    set.add("Ravi");
    set.add("Vijay");
    set.add("Ravi");
    Iterator<String> i = set.iterator();
    while(i.hasNext()){
      System.out.println(i.next());
    }
  }
```

Sortedset :-

```
import java.util.*;

class Sorted
    public static void main(String[] args)
    {
        sortedSet<String> ts = new TreeSet<String>();
        ts.add("South Africa");
        ts.add("Australia");
        ts.add("India");
        System.out.println("set after inserting" + ts);
        ts.remove("Australia");
        System.out.println("removed:" + ts);
    }
}
```