**Ex :160**

**PROGRAM:-**

**import** java.util.\*;

**public** **class** array\_list

{

**public** **static** **void** main(String args[])

{

ArrayList<String> a = **new** ArrayList<String>();

a.add("Ranbir Kapoor");

a.add("Surya");

a.add("Kanishka");

a.add("Pavithra");

Iterator i= a.iterator();

**while**(i.hasNext())

{

System.***out***.println(i.next());

}

}

}

**OUTPUT:-**

Ranbir kapoor

Surya

Kanishka

Pavithra

**PROGRAM:-**

**import** java.util.\*;

**public** **class** for\_each\_loop

{

**public** **static** **void** main(String args[])

{

ArrayList<String> a = **new** ArrayList<String>();

a.add("Swetha");

a.add("Sheela");

a.add("Parthasarathy");

a.add("Sooriya");

**for**(String str:a)

System.***out***.println(str);

}

}

**OUTPUT:-**

Tanishka

Sharadha

Iyappan

Divya

**PROGRAM:-**

**import** java.util.\*;

**public** **class** user\_array\_list

{

**public** **static** **void** main(String args[])

{

employee emp1 = **new** employee(157, "Suganya", "Project Manager");

employee emp2 = **new** employee(128, "Fardheen", "Accountant");

employee emp3 = **new** employee(143, "Lakshmi", "Team Leader");

ArrayList<employee> a = **new** ArrayList<employee>();

a.add(emp1);

a.add(emp2);

a.add(emp3);

Iterator i = a.iterator();

**while**(i.hasNext())

{

employee e = (employee)i.next();

//System.out.println("\nID : " + e.id);

//System.out.println("Name : " + e.name);

//System.out.println("Designation : " + e.designation);

System.***out***.println(e.id+" "+e.name+" "+e.designation);

}

}

}

**class** employee

{

**int** id;

String name;

String designation;

employee(**int** id, String name, String designation)

{

**this**.id = id;

**this**.name = name;

**this**.designation = designation;

}

}

**OUTPUT:-**

157 Suganya Project Manager

128 Fardheen Accountant

143 Lakshmi Team Leader

**PROGRAM:-**

**import** java.util.\*;

**public** **class** add\_all\_method

{

**public** **static** **void** main(String args[])

{

ArrayList<String> a = **new** ArrayList<String>();

a.add("Joel");

a.add("Suchithra");

a.add("Pooja");

ArrayList<String> al=**new** ArrayList<String>();

al.add("Vijay");

al.add("Chaitanya");

a.addAll(al);

Iterator i = a.iterator();

**while**(i.hasNext())

{

System.***out***.println(i.next());

}

}

}

**OUTPUT:-**

Joel

Suchithra

Pooja

Vijay

Chaitanya

**PROGRAM:-**

**import** java.util.\*;

**public** **class** remove\_all\_method

{

**public** **static** **void** main(String args[])

{

ArrayList<String> a = **new** ArrayList<String>();

a.add("Nithya");

a.add("Anuppama");

a.add("Keerthi");

ArrayList<String> al = **new** ArrayList<String>();

al.add("Samantha");

al.add("Nayanthara");

a.removeAll(al);

System.***out***.println("Iterating the elements after removing the elements of al");

Iterator i=a.iterator();

**while**(i.hasNext())

{

System.***out***.println(i.next());

}

}

}

**OUTPUT:-**

Iterating the elements after removing the elements of al

Nithya

Anuppama

Keerthi

**PROGRAM:-**

**import** java.util.\*;

**public** **class** retain\_all

{

**public** **static** **void** main(String args[])

{

ArrayList<String> a = **new** ArrayList<String>();

a.add("Vijay Devarkonda");

a.add("Naga Chaitanya");

a.add("Ram Charan");

ArrayList<String> al = **new** ArrayList<String>();

al.add("Vijay Devarkonda");

al.add("Mahesh Babu");

a.retainAll(al);

System.***out***.println("Iterating the elements after retaining the elements of al");

Iterator i = a.iterator();

**while**(i.hasNext())

{

System.***out***.println(i.next());

}

}

}

**OUTPUT:-**

Iterating the elements after retaining the elements of al

Vijay Devarkonda

**PROGRAM:-**

**import** java.util.\*;

**public** **class** linked\_list

{

**public** **static** **void** main(String args[])

{

LinkedList<String> a = **new** LinkedList<String>();

a.add("Shahid Kapoor");

a.add("Sharukh Khan");

a.add("Ranbir Kapoor");

a.add("Ranveer Singh");

Iterator<String> i = a.iterator();

**while**(i.hasNext())

{

System.***out***.println(i.next());

}

}

}

**OUTPUT:-**

Shahid Kapoor

Sharukh Khan

Ranbir Kapoor

Ranveer Singh

**PROGRAM:-**

**import** java.util.\*;

**public** **class** list\_iterator\_interface

{

**public** **static** **void** main(String args[])

{

ArrayList<String> a = **new** ArrayList<String>();

a.add("Mahendar Singh Dhoni");

a.add("Virat Kholi");

a.add("Suresh Raina");

a.add(1,"Sachin Tendulkar");

System.***out***.println("Element at 2nd Position: "+a.get(2));

//System.out.println("Element at 3rd Position: "+a.get(2));

ListIterator<String> i = a.listIterator();

System.***out***.println("Traversing the Elements in Forward Direction...");

**while**(i.hasNext())

{

System.***out***.println(i.next());

}

System.***out***.println("Traversing the Elements in Backward Direction...");

**while**(i.hasPrevious())

{

System.***out***.println(i.previous());

}

}

}

**OUTPUT:-**

Element at 2nd Position: Virat Kholi

Traversing the Elements in Forward Direction...

Mahendar Singh Dhoni

Sachin Tendulkar

Virat Kholi

Suresh Raina

Traversing the Elements in Backward Direction...

Suresh Raina

Virat Kholi

Sachin Tendulkar

Mahendar Singh Dhoni

**PROGRAM:-**

**import** java.util.\*;

**public** **class** hash\_set

{

**public** **static** **void** main(String args[])

{

HashSet<String> a = **new** HashSet<String>();

a.add("Shahid Kapoor");

a.add("Sharukh Khan");

a.add("Shahid Kapoor");

a.add("Ranbir Kapoor");

Iterator<String> i = a.iterator();

**while**(i.hasNext())

{

System.***out***.println(i.next());

}

}

}

**OUTPUT:-**

Ranbir Kapoor

Shahid Kapoor

Sharukh Khan

**PROGRAM:-**

**import** java.util.\*;

**public** **class** linked\_hashset

{

**public** **static** **void** main(String args[])

{

LinkedHashSet<String> a = **new** LinkedHashSet<String>();

a.add("Anushka Sharma");

a.add("Deepika Padukone");

a.add("Anushka Sharma");

a.add("Priyanka Chopra");

// a.add("Ashwini");

Iterator<String> i = a.iterator();

**while**(i.hasNext())

{

System.***out***.println(i.next());

}

}

}

**OUTPUT:-**

Anushka Sharma

Deepika Padukone

Priyanka Chopra

**PROGRAM:-**

**import** java.util.\*;

**public** **class** tree\_set

{

**public** **static** **void** main(String args[])

{

TreeSet<String> a = **new** TreeSet<String>();

a.add("Prabhas");

a.add("Vijay Devarkonda");

a.add("Ram Charan");

a.add("Prabhas");

a.add("Naga Chaitanya");

Iterator<String> i = a.iterator();

**while**(i.hasNext())

{

System.***out***.println(i.next());

}

}

}

**OUTPUT:-**

Naga Chaitanya

Prabhas

Ram Charan

Vijay Devarkonda

**PROGRAM:-**

**import** java.util.\*;

**public** **class** priority\_queue

{

**public** **static** **void** main(String args[])

{

PriorityQueue<String> prior = **new** PriorityQueue<String>();

prior.add("Anupppama");

prior.add("Nivin Pauly");

prior.add("Nazriya Nazim");

prior.add("Dulquer Salman");

prior.add("Sai Pallavi");

System.***out***.println("Head:"+prior.element());

System.***out***.println("Head:"+prior.peek());

System.***out***.println("Iterating the Queue Elements:");

Iterator i = prior.iterator();

**while**(i.hasNext())

{

System.***out***.println(i.next());

}

prior.remove();

prior.poll();

System.***out***.println("After Removing Two Elements:");

Iterator<String> itr = prior.iterator();

**while**(itr.hasNext())

{

System.***out***.println(itr.next());

}

}

}

**OUTPUT:-**

Head:Anupppama

Head:Anupppama

Iterating the Queue Elements:

Anupppama

Dulquer Salman

Nazriya Nazim

Nivin Pauly

Sai Pallavi

After Removing Two Elements:

Nazriya Nazim

Nivin Pauly

Sai Pallavi

**PROGRAM:-**

**import** java.util.\*;

**public** **class** hash\_map

{

**public** **static** **void** main(String args[])

{

HashMap<Integer,String> h = **new** HashMap<Integer,String>();

h.put(225,"Sai");

h.put(248,"Anushka");

h.put(201,"Divya");

h.put(252,"Pavithra");

h.put(207,"Nikitha");

**for**(Map.Entry mp:h.entrySet())

{

System.***out***.println("\nId: "+mp.getKey());

System.***out***.println("Name : "+mp.getValue());

}

}

}

**OUTPUT:-**

Id: 225

Name : Sai

Id: 248

Name : Anushka

Id: 201

Name : Divya

Id: 252

Name : Pavithra

Id: 207

Name : Nikitha

**PROGRAM:-**

**import** java.util.\*;

**public** **class** linked\_hashmap

{

**public** **static** **void** main(String args[])

{

LinkedHashMap<Integer,String> h = **new** LinkedHashMap<Integer,String>();

h.put(225,"Sai");

h.put(248,"Anushka");

h.put(201,"Divya");

h.put(252,"Pavithra");

h.put(207,"Nikitha");

**for**(Map.Entry m:h.entrySet())

{

System.***out***.println("\nID : "+m.getKey());

System.***out***.println("Name : "+m.getValue());

}

}

}

**OUTPUT:-**

ID : 225

Name : Sai

ID : 248

Name : Anushka

ID : 201

Name : Divya

ID : 252

Name : Pavithra

ID : 207

Name : Nikitha

**PROGRAM:-**

**import** java.util.\*;

**public** **class** tree\_map

{

**public** **static** **void** main(String args[])

{

TreeMap<Integer,String> h = **new** TreeMap<Integer,String>();

h.put(175,"Priyanka Chopra");

h.put(102,"Vijay Devarkonda");

h.put(199,"Samantha");

h.put(165,"Kajol");

//h.put(153,"Krishika");

**for**(Map.Entry m:h.entrySet())

{

System.***out***.println("\nID : "+m.getKey());

System.***out***.println("Name : "+m.getValue());

}

}

}

**OUTPUT:-**

Name : Vijay Devarkonda

ID : 165

Name : Kajol

ID : 175

Name : Priyanka Chopra

ID : 199

Name : Samantha

**PROGRAM:-**

**import** java.util.\*;

**public** **class** hash\_table

{

**public** **static** **void** main(String args[])

{

Hashtable<Integer,String> h = **new** Hashtable<Integer,String>();

h.put(189,"Dulquer Salman");

h.put(107,"Nivin Pauly");

h.put(145,"Vijay Devarkonda");

h.put(112,"Ranbir Kapoor");

//h.put(173,"Sai");

**for**(Map.Entry m:h.entrySet())

{

System.***out***.println("\nID : "+m.getKey());

System.***out***.println("Name : "+m.getValue());

}

}

}

**OUTPUT:-**

ID : 107

Name : Nivin Pauly

ID : 112

Name : Ranbir Kapoor

ID : 145

Name : Vijay Devarkonda

ID : 189

Name : Dulquer Salman