**1. Use a Hash set to hold employee objects. Upon running the application, the details of the employees added to the hash set should be displayed.**

import java.util.HashSet;

**public class** Employee1{

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

HashSet<Employee>set=new HashSet<Employee>();

Employee e=new Employee(1,Rob,Analyst,25000.0);

set.add(e);

for(Employee e1:set)

{

e.Displaydetails();

}

}

}

**public class** Employee{

**int** id;

String name,dept;

double sal;

**public** employee(**int** id,**int** sal, String name, String dept, double sal)

{

**this**.id=id;

**this**.sal=sal;

**this**.name=name;

**this**.dept=dept;

}

**public void** Displaydetails(){

System.***out***.println(id+" " +name+" "+dept+" "+sal);

}

}

Output

1 Rob Analyst 25000.0

**2. Write an application to hold 10 random int values as keys and 10 random double values as values for a HashMap. Print the data store in the HashMap. Note: keys can only be int and values double**

import java.util.HashMap;

public class Numbers{

public static void main(String[] args){

HashMap<Integer,Double> map=new HashMap<>();

map.put(1, 1.0);

map.put(2, 2.0);

map.put(3, 3.0);

map.put(4, 4.0);

map.put(5, 5.0);

map.put(6, 6.0);

map.put(7, 7.0);

map.put(8, 8.0);

map.put(9, 9.0);

map.put(10, 10.0);

System.out.println(map);

for(Integer key: map.keySet()){

System.out.println(key + “ = “ + map.get(key));

}

}

}

Output

{1=1.0, 2=2.0, 3=3.0, 4=4.0, 5=5.0, 6=6.0, 7=7.0, 8=8.0, 9=9.0, 10=10.0}

1=1.0

2=2.0

3=3.0

4=4.0

5=5.0

6=6.0

7=7.0

8=8.0

9=9.0

10=10.0

**3. Write a generic method to exchange the positions of two different elements in an array.**

**package swap;**

**import java.util.Arrays;**

**public class swap1 {**

**public static <T> void swap(int[] arr ,int a, int b)**

**{**

**int temp = arr[b];**

**arr[b]=arr[a];**

**arr[a]=temp;**

}

private static void swap3(){

int[] arr= {1,5,3,6,7};

swap(arr,0,2);

System.out.println(“swapped” +Arrays.tostring(arr));

}

public static void main(String[] args)

{

swap3();

}

}

Output

Swapped[3, 5, 1, 6, 7]

4(a).HashMap application for key=string, value=string

**public class** pair {

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

{

HashMap<String, String> map = **new** HashMap<>();

map.put("Hello", "1");

map.put("World", "2");

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

}

}

Output

Hello World

(b).key=string value=date

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

**public class** pair1 {

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

HashMap<String, Date> map = **new** HashMap<>();

map.put("Today is ", **new** java.util.Date());

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

}

}

Output

{Today is =Sun Jan 16 20:27:30 IST 2022}