

Q1. Explain Vector class in java?

```
/*
```

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```

```
 */
```

```
package dsafeb2025;
```

```
import java.util.Enumeration;
```

```
import java.util.Iterator;
```

```
import java.util.ListIterator;
```

```
import java.util.Vector;
```

```
/**
```

```
 *
```

```
 * @author Admin
```

```
 */
```

```
public class V1 {
```

```
public static void main(String[] args)
{
    Vector<Integer> v=new
Vector<Integer>();
    for (int i = 1; i <=10; i++) {
        v.add(i);
    }
    v.add(10);
    v.add(1);
    System.out.println("Vector
elements : "+v);
    System.out.println("Print Data of
Vector Using Enumeration ");
    Enumeration<Integer>
en=v.elements();
    while(en.hasMoreElements()){
System.out.print("==>" +en.nextElement());
    }
    System.out.println("\nPrint Data
of Vector Using Iterator ");
```

```

Iterator<Integer> itr=v.iterator();
while(itr.hasNext()){
    int x=itr.next();
    if(x%2==0){
        System.out.print("-----
>" +x);
    }else{
        itr.remove();
    }
}
System.out.println(" "+v);
ListIterator<Integer>
litr=v.listIterator();
while(litr.hasNext()){
    int x=litr.next();
    System.out.print(" | |   "+x);
    if(x==10){
        litr.add(100);
    }
    if(x==4){
        litr.set(44);

```

```
    }
    if(x==8){
        ltr.remove();
    }

}
System.out.print("*****==>" + v);
}
}
```

Q2. Explain Stack class in java?

Ans: It is a child class of vector class and comes from java.util package

If we want to represent group of entity under single object where First Last Out Order is Follow then we should go for Stack Class

This is a legacy class and all methods of stack class is synchronized

Methods:

1. Push()
 2. Pop()
 3. Peek()
 4. isEmpty()
-

Q2. Explain LinkedList?

Ans:

```
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```

```
*/
```

```
package dsafeb2025;
```

```
import java.util.LinkedList;
```

```
public class L1 {  
    public static void main(String[] args)  
    {  
        LinkedList<Integer> list=new  
LinkedList<Integer>();  
        list.add(10);  
        list.add(20);  
        list.add(30);  
        System.out.println(""+list);  
        list.addFirst(5);  
        System.out.println(""+list);  
        list.addLast(40);  
        System.out.println(""+list);  
        list.add(2, 15);  
        System.out.println(""+list);  
        list.removeFirst();  
        System.out.println(""+list);  
        list.removeLast();  
        System.out.println(""+list);  
        list.remove(3);  
        System.out.println(""+list);  
    }  
}
```

```
}  
}
```

Q3.Explain Set Interface in java?

Ans: It is the child interface of Collection

It is used to store only unique values

Implementation Classes of

1. HashSet: Insertion order not preserved and duplicates are not allowed

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```

```
*/
```

```
package dsafeb2025;
```

```
import java.util.HashSet;
```

```
/**
```

```
 *
```

```
 * @author Admin
```

```
 */
```

```
public class h1 {
```

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

```
{
```

```
    HashSet<Integer> hs=new
```

```
HashSet<Integer>();
```

```
    hs.add(10);
```

```
    hs.add(20);
```

```
    hs.add(30);
```

```
    hs.add(40);
```

```
    hs.add(10);
```

```
    hs.add(20);
```

```
    hs.add(30);
```

```
    hs.add(40);
```



```
        System.out.println("HashSet  
"+hs);  
    }  
}
```

=====

2. LinkedHashSet: Insertion order preserved and duplicates are not allowed

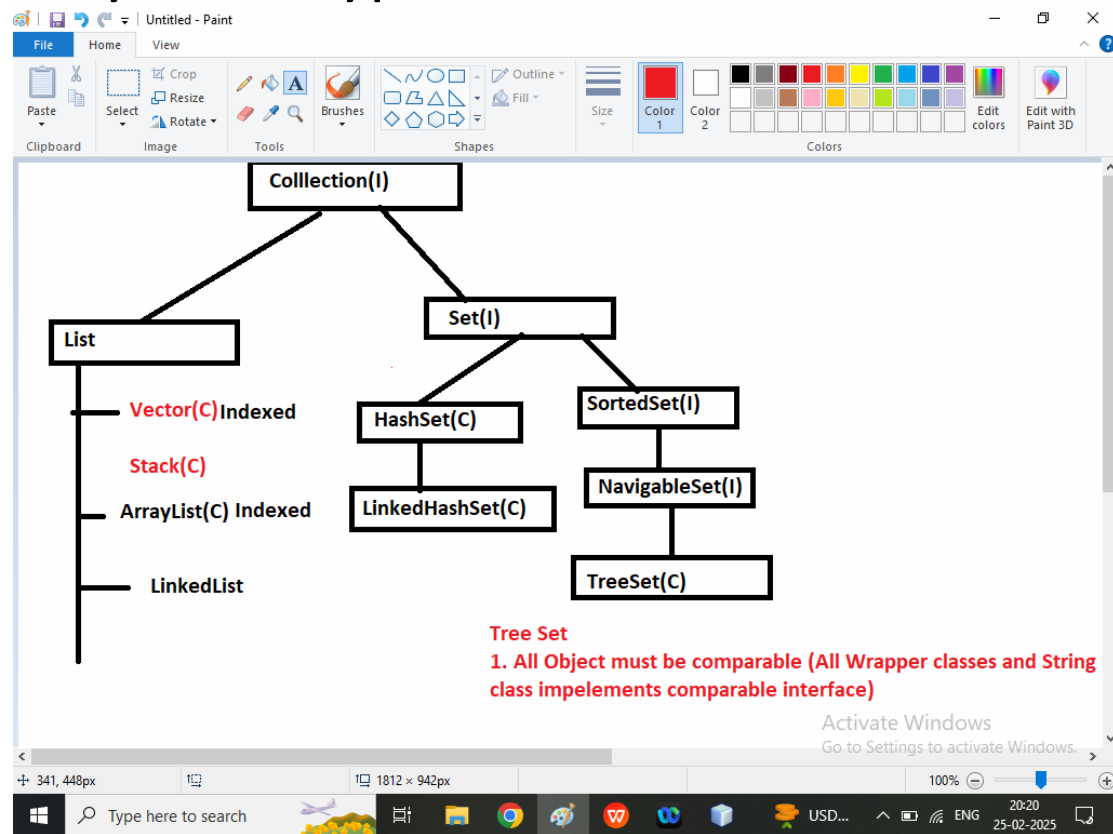
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Tools | Templates  
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 */  
package dsafeb2025;
```

```
import java.util.HashSet;  
import java.util.LinkedHashSet;
```

```
/**
 *
 * @author Admin
 */
public class h1 {
    public static void main(String[] args)
    {
        HashSet<Integer> hs=new
        HashSet<Integer>();
        hs.add(10);
        hs.add(20);
        hs.add(30);
        hs.add(40);
        hs.add(10);
        hs.add(20);
        hs.add(30);
        hs.add(40);
        System.out.println("HashSet
        "+hs);
    }
}
```

}

3. TreeSet: Data stored by default in sorted order. In Tree Set we can store only same type of data.



```
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```

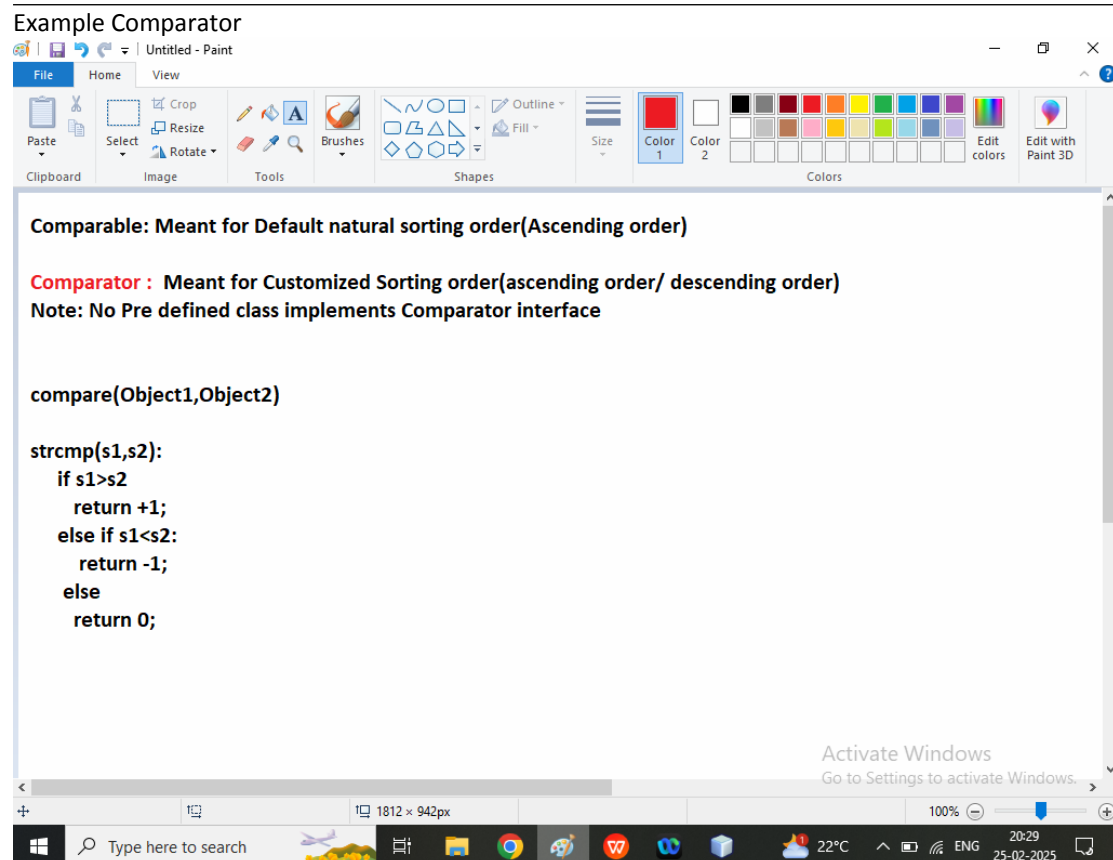
```
import java.util.HashSet;  
import java.util.LinkedHashSet;  
import java.util.TreeSet;
```

```
/**  
 *  
 * @author Admin
```

```

*/
public class h1 {
    public static void main(String[] args) {
        TreeSet<Integer> hs=new TreeSet<Integer>();
        hs.add(100);
        hs.add(20);
        hs.add(300);
        hs.add(40);
        hs.add(1000);
        hs.add(200);
        hs.add(300);
        hs.add(400);
        System.out.println("HashSet "+hs);
        TreeSet<String> hs1=new TreeSet<String>();
        hs1.add("Z");
        hs1.add("A");
        hs1.add("Y");
        hs1.add("Z");
        System.out.println(""+hs1);
        TreeSet hs2=new TreeSet();
        hs2.add(new StringBuffer("Z"));
        hs2.add(new StringBuffer("A"));
        hs2.add(new StringBuffer("Y"));
        hs2.add(new StringBuffer("Z"));
    }
}

```



```
import java.util.Comparator;
```

```

import java.util.TreeSet;

/*
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 */

/**
 *
 * @author Admin
 */
public class Student implements Comparator<Student>{
    private String name;
    private float per;

    public Student() {
    }

    public Student(String name, float per) {
        this.name = name;
        this.per = per;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public float getPer() {
        return per;
    }

    public void setPer(float per) {
        this.per = per;
    }

    @Override
    public String toString() {
        return "Student{" + "name=" + name + ", per=" + per + "}";
    }

    public static void main(String[] args) {
        Student s1=new Student("Akash", 66.56f);
        Student s2=new Student("Deepak", 56.56f);
        Student s3=new Student("kartik", 46.56f);
        Student s4=new Student("Harshit", 96.56f);
        TreeSet<Student> ts=new TreeSet<Student>(new Student());
        ts.add(s1);
        ts.add(s2);
        ts.add(s3);
        ts.add(s4);
        for(Student x:ts){

```

```

        System.out.println(x.getPer()+" "+x.getName());
    }

}

@Override
public int compare(Student o1, Student o2) {
    if(o1.per>o2.per){
        return 1;
    }else if(o1.per<o2.per){
        return -1;
    }else{
        return 0;
    }
}
}
}

```

Sort Data in descending Order

```

import java.util.Comparator;
import java.util.TreeSet;

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/**
 *
 * @author Admin
 */
public class Student implements Comparator<Student>{
    private String name;
    private float per;

    public Student() {
    }

    public Student(String name, float per) {
        this.name = name;
        this.per = per;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public float getPer() {
        return per;
    }
}

```

```

public void setPer(float per) {
    this.per = per;
}

@Override
public String toString() {
    return "Student{" + "name=" + name + ", per=" + per + "}";
}

public static void main(String[] args) {
    Student s1=new Student("Akash", 66.56f);
    Student s2=new Student("Deepak", 56.56f);
    Student s3=new Student("kartik", 46.56f);
    Student s4=new Student("Harshit", 96.56f);
    TreeSet<Student> ts=new TreeSet<Student>(new Student());
    ts.add(s1);
    ts.add(s2);
    ts.add(s3);
    ts.add(s4);
    for(Student x:ts){
        System.out.println(x.getPer()+" "+x.getName());
    }
}

@Override
public int compare(Student o1, Student o2) {
    if(o1.per>o2.per){
        return -1;
    }else if(o1.per<o2.per){
        return +1;
    }else{
        return 0;
    }
}
}

```
