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**Quiz 3 for Lesson 8-12 - Set 1**

24/25

I. Match the suitable exception for the given code. [ 4 Points ]

[ClassCastException, ArrayIndexOutOfBoundsException, NumberFormatException, NullPointerException, InputMismatchException, ClassNotSupportedException]

<pre>public class MatchException {     public static void main(String args[]){         Object o = null;         System.out.println(o.toString());     } }</pre> <p>Answer : <u>NullPointerException</u></p>	<pre>public class MatchException {     public static void main(String args[]){         Object o = new Object();         String s = (String)o;     } }</pre> <p>Answer : <u>ClassCastException</u></p>
<pre>public class MatchException {     public static void main(String args[]){         String s = "Java";         int i = Integer.parseInt(s);         System.out.println(i);     } }</pre> <p>Answer : <u>NumberFormatException</u></p>	<pre>public class MatchException {     public static void main(String args[]){         int[] x = new int[5];         System.out.println(x[5]);     } }</pre> <p>Answer : <u>ArrayIndexOutOfBoundsException</u></p>

II. Answer the following questions

2. Construct a Binary Search Tree for the given set of elements and perform tree traversal.

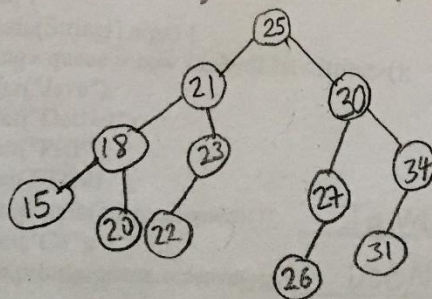
[3 Points]

a) Construct a Binary Tree.

Set of inputs are: [ 25 21 30 18 27 15 20 26 23 22 34 31 ]

b) Write Pre-order traversal 25 21 18 15 20 23 22 30 27 26 34 31

c) Write Post-order traversal 15 20 18 22 23 21 26 27 31 34 30 25



3. Fill your answers as "Yes" or "No" in the table according to the Java API classes as per the given aspects mentioned in columns. No other words allowed. [ 3 Points ]

Class	Sequential Access?	Allow Duplicates?	Sorted Collection?
ArrayList	Yes ✓	Yes ✓	No ✓
TreeSet	No ✓	No ✓	Yes ✓
HashSet	No ✓	No ✓	No ✓

4. Fill up the answer in the dash with the answer of either **Interface** or **Class**. No other words allowed. [ 3 Points ]

- a. Collection → Interface ✓  
b. Collections → Class ✓  
c. Map → Class ✓  
d. Queue → Interface ✓  
e. Stack → Class ✓  
f. List → Interface ✓

5. Fill the answers in the table according to the given aspects. Your answer should be **Yes** or **No**. No other words allowed. [ 4 Points ]

Feature	java.util.HashMap	java.util.Hashtable
Allows null key	Yes ✓	No ✓
Allows null values	Yes ✓	No ✓
Allows duplicate keys	No ✓	Yes ✓
Synchronized (for safe multithreading)	No ✓	Yes ✓

My Hashtable  
No  
Yes  
No  
Yes

6. Write the output of the given code in the dash. This code uses the API. [ 2 Points ]

```
public class QueueDemo {
    public static void main(String[] args) {
        Queue<String> queue = new LinkedList<String>();
        queue.offer("Java");
        queue.offer("DotNet");
        queue.offer("PHP");
        queue.offer("HTML");
        System.out.println(queue.element());
        Queue.offer("C#");
        System.out.println(queue.remove());
```

Java ✓  
DotNet ✓ Java



```
Stack<Integer> stack = new Stack<Integer>();
```

```
    stack.push(5);
    stack.push(6);
    stack.push(7);
    System.out.println(stack.peek());
    stack.push(15);
    System.out.println(stack.pop());
}
```

7 ✓  
15

III. Circle the right choice.

[1 point each]

7. Which one of these interfaces must contain a unique(no duplicate) element?  
☒ a) Set      b) List      c) Queue      d) AbstractList

8. Java's TreeSet and TreeMap classes implemented the balanced tree which is called \_\_\_\_\_  
 a) AVL Trees      ☒ b) Red-Black Trees      c) 2-3-4 Trees      d) Expression Trees

9. What is the output of the given code?

```
public class Demo {
    public static void main(String[] args) {
        Set<String> obj = new TreeSet();
        obj.add("Hello");
        if(obj.add("Hello"))
            System.out.println(true);
        else
            System.out.println(false);
    }
}
```

a) true      ☒ b) false      c) Run time Error      d) Compile time error

☒ 10. An object that is for a RuntimeException is an Exception. The converse is also true. This statement is true or false.

a) True      ☒ b) False

11. Integer[] input = { 10, 15, 12, 11, 13 };

Which one of the following statement gives the sorted elements for the given input?

☒ a) Arrays.sort(input)      b) Collections.sort(input)

12. Which one can be used to assure program correctness during the testing and avoid logic errors?

a) Exceptions      ☒ b) Assertions