Practice Test

Lab Assessment

Total points   76/80 (?)

Email *

Name *

Registration Number *

✓ In circular linked list, insertion of node requires modification of? *   2/2

○ One pointer

⦿ Two pointer   ✓

○ Three pointer

○ None

○ Other: _____

✓ The data structure required for Breadth First Traversal on a graph is? * 2/2

○ Stack

◉ Queue ✓

○ Tree

○ Array

✓ In delete operation of BST, we need inorder successor (or predecessor) 2/2 of a node when the node to be deleted has both left and right child as non-empty. Which of the following is true about inorder successor needed in delete operation? *

○ Inorder Successor is always a leaf node

◉ Inorder successor is always either a leaf node or a node with empty left child ✓

○ Inorder successor may be an ancestor of the node

○ Inorder successor is always either a leaf node or a node with empty right child

✓ How to sort ArrayList elements? * 2/2

○ collection.sort (list);

◉ collections.sort (list); ✓

○ Arrays.sort(list)

○ Array.sort(list)

✓ Which of the following method is used to add element to map? *   2/2

○ add

○ get

● put   ✓

○ both a & c

✓ We can calculate the length of an array using _____. *   2/2

○ sizeof(array)

○ array.len

● array.length   ✓

○ array.sizeof()

✓ Which of the following traversal outputs the data in sorted order in a   2/2
BST? *

○ Preorder

● Inorder   ✓

○ Levelorder

○ Postorder

✓ Which of the following data type(s) can store 64 bit Value. * 2/2

○ boolean

○ int

○ float

◉ long ✓

✗ What is the worst case time complexity for search, insert and delete operations in a general Binary Search Tree? * 0/2

◉ O(Logn) for all ✗

○ O(Logn) for search and insert, and O(n) for delete

○ O(Logn) for search, and O(n) for insert and delete

○ O(n) for all

Correct answer

◉ O(n) for all

✓ What is the value returned by function compareTo() if the invoking string 2/2
is less than the string compared? *

○ zero

◉ value less than zero ✓

○ value greater than zero

○ None of the mentioned

✓ The following numbers are inserted into an empty binary search tree in 2/2
the given order: 10, 1, 3, 5, 15, 12, 16. What is the height of the binary
search tree (the height is the maximum distance of a leaf node from the
root)? *

○ 2

◉ 3 ✓

○ 4

○ 6

✓ What will be the output of the program? * 2/2

```
class Main {
    public static void main(String args[]) {
        int t;
        System.out.println(t);
    }
}
```

○ 0

○ garbage value

◉ compiler error ✓

○ runtime error

✓ The preorder traversal sequence of a binary search tree is 30, 20, 10, 15, 2/2
25, 23, 39, 35, 42. Which one of the following is the postorder traversal
sequence of the same tree? *

○ 10, 20, 15, 23, 25, 35, 42, 39, 30

○ 15, 10, 25, 23, 20, 42, 35, 39, 30

○ 15, 20, 10, 23, 25, 42, 35, 39, 30

◉ 15, 10, 23, 25, 20, 35, 42, 39, 30 ✓

✓ What is the output of this program? *   2/2

```
class average {
        public static void main(String args[])
        {
                double num[] = {5.5, 10.1, 11, 12.8, 56.9, 2.5};
                double result;
                result = 0;
                for (int i = 0; i<6; ++i)
                        result = result + num[i];
        System.out.print(result/6);

        }
}
```

○ 16.34

○ 16.56666664

◉ 16.46666667   ✓

○ 16.76666667

✓ While inserting the elements 71, 65, 84, 69, 67, 83 in an empty binary   2/2
search tree (BST) in the sequence shown, the element in the lowest level
is *

○ 65

◉ 67   ✓

○ 69

○ 83

✓ Which of these class is superclass of String and StringBuffer class? * 2/2

○ java.util

◉ java.lang ✓

○ ArrayList

○ None of the mentioned

✓ What will be the output of the following Java code? * 2/2

```
1.  public class Boxer1
2.  {
3.      Integer i;
4.      int x;
5.      public Boxer1(int y)
6.      {
7.          x = i+y;
8.          System.out.println(x);
9.      }
10.     public static void main(String[] args)
11.     {
12.         new Boxer1 (new Integer(4));
13.     }
14. }
```

○ The value "4" is printed at the command line

○ Compilation fails because of an error in line

○ A NullPointerException occurs at runtime

◉ An IllegalStateException occurs at runtime ✓

✓ A binary search tree T contains n distinct elements. What is the time   2/2
complexity of picking an element in T that is smaller than the maximum
element in T? *

○ Θ(nlogn)

○ Θ(n)

○ Θ(logn)

◉ Θ(1)   ✓

✓ Identify the infix expression from the list of options given below. *   2/2

◉ a/b+(c-d)   ✓

○ abc*+d+ab+cd+*ce-f-

○ ab-c-

○ +ab

✓ Which of the following is not the application of stack? *   2/2

○ A parentheses balancing program

○ Tracking of local variables at run time

○ Compiler Syntax Analyzer

◉ Data Transfer between two asynchronous process   ✓

✓   **What will be the output of the following Java code? ***   2/2

```
class output
{
    public static void main(String args[])
    {
        String a = "hello i love java";
        System.out.println(a.indexOf('i')+" "+a.indexOf('o') +" "+a.lastIndexOf('i')+" "+a.lastIndexOf('o'));
    }
}
```

⦿ 6 4 6 9   ✓

◯ 5 4 5 9

◯ 7 8 8 9

◯ 4 3 6 9

✓   **What will be the output of the following Java code? ***   2/2

```
public class Test{
        public static void main(String args[]){
                String s1 = "java";
                String s2 = "java";
                System.out.println(s1.equals(s2));
                System.out.println(s1 == s2);
        }
}
```

◯ false true

◯ false false

◯ true false

⦿ true true   ✓

✓   What is the result of the following postfix expression?ab*cd*+ where   2/2
      a=2,b=2,c=3,d=4. *

○   12

○   14

○   10
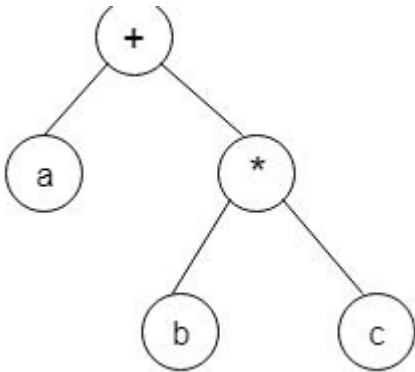
◉   16   ✓

✓   For the given expression tree, write the correct postfix expression. *   2/2

◉   abc*+   ✓

○   abc+*

○   ab+c*

○   a+bc*

✓ Heap exhibits the property of a binary tree? *   2/2

◉ true   ✓

◯ False

✓ What will be the output of the following Java code? *   2/2
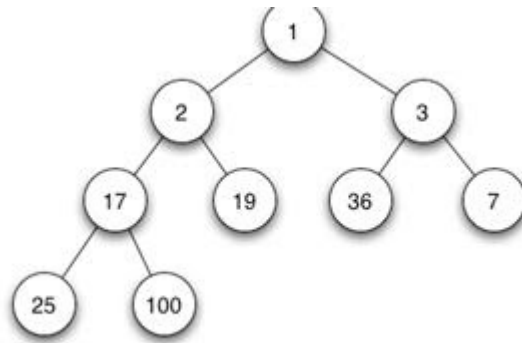
```java
public class Test{
        public static void main(String args[]){
                String x = "hellow";
                int y = 9;
                System.out.println(x += y);
        }
}
```

◯ Throws an exception as string and int are not compatible for addition

◉ hellow9   ✓

◯ 9hellow

◯ Compilation error

◯ None of these

✓   If we implement heap as min-heap, deleting root node (value 1)from the   2/2
    heap. What would be the value of root node after second iteration if leaf
    node (value 100) is chosen to replace the root at start. *

◉ 2   ✓

○ 100

○ 17

○ 3

✓   mWhat will be the output of the program? *   2/2

```
class area {
        public static void main(String args[])
        {
                double r, pi, a;
                r = 9.8;
                pi = 3.14;
                a = pi * r * r;
                System.out.println(a);
        }
}
```

🔘 301.5656   ✓

⭕ 301

⭕ 301.56

⭕ 301.57

✓ What will be the output of the following Java code? * 2/2

```
class output
{
    public static void main(String args[])
    {
        String s1 = "Hello";
        String s2 = new String(s1);
        String s3 = "HELLO";
        System.out.println(s1.equals(s2) + " " + s2.equals(s3));
    }
}
```

○ true true

○ false false

◉ true false ✓

○ false true

✓   What will be the output of the following Java program? *   2/2

```
class Output
{
    public static void main(String args[])
    {
        int a = 1;
        int b = 2;
        int c = 3;
        a |= 4;
        b >>= 1;
        c <<= 1;
        a ^= c;
        System.out.println(a + " " + b + " " + c);
    }
}
```

● 3 1 6   ✓

○ 2 2 3

○ 2 3 4

○ 3 3 6

✓   What will be the output of the following Java code? *   2/2

```
class bool_operator
{
    public static void main(String args[])
    {
        boolean a = true;
        boolean b = !true;
        boolean c = a | b;
        boolean d = a & b;
        boolean e = d ? b : c;
        System.out.println(d + " " + e);
    }
}
```

○   false false

○   true ture

○   true false

◉   false true   ✓

✓   Which collection class allows you to associate its elements with key   2/2
    values, and allows you to retrieve objects in FIFO (first-in, first-out)
    sequence? *

○   java.util.ArrayList

◉   java.util.LinkedHashMap   ✓

○   java.util.HashMap

○   java.util.TreeMap

✓   What will be the output of the following Java code?   2/2

```
class Output
{
    public static void main(String args[])
    {
        boolean a = true;
        boolean b = false;
        boolean c = a ^ b;
        System.out.println(!c);
    }
}
```

○   0

○   1

◉   false   ✓

○   true

✓ What will be the output of the following Java code? * 2/2

```
class output
{
    public static void main(String args[])
    {
        String chars[] = {"a", "b", "c", "a", "c"};
        for (int i = 0; i < chars.length; ++i)
            for (int j = i + 1; j < chars.length; ++j)
                if(chars[i].compareTo(chars[j]) == 0)
                    System.out.print(chars[j]);
    }
}
```

○ ab

○ bc

○ ca

⦿ ac ✓

✓ Which operator is used to invert all the digits in a binary representation 2/2
of a number? *

⦿ ~ ✓

○ <<<

○ >>>

○ ^

✓   What is the location of a parent node for any arbitrary node i? *   2/2

○   (i/2) position

○   (i+1)/ position

◉   floor(i/2) position   ✓

○   ceil(i/2) position

✓   A normal queue, if implemented using an array of size MAX_SIZE, gets   2/2
    full when? *

◉   Rear = MAX_SIZE − 1   ✓

○   Front = (rear + 1)mod MAX_SIZE

○   Front = rear + 1

○   Rear = front

✕   **What is the functionality of the following code? ***   0/2

```
public void function(Node node)
{
        if(size == 0)
                head = node;
        else
        {
                Node temp,cur;
                for(cur = head; (temp = cur.getNext())!=null; cur = temp);
                cur.setNext(node);
        }
        size++;
}
```

○ inserting anode at the end of the list

○ Deleting a node at the beginning of the list

◉ Inserting a node at the beginning of the list   ✕

○ Deleting a node at the end of the list

Correct answer

◉ inserting anode at the end of the list

✓   **Which of these statements are incorrect? ***   2/2

○ The left shift operator, <<, shifts all of the bits in a value to the left specified number of times

○ The right shift operator, >>, shifts all of the bits in a value to the right specified number of times

○ The left shift operator can be used as an alternative to multiplying by 2

◉ The right shift operator automatically fills the higher order bits with 0   ✓

✓　What will be the output of the following Java program? *　　　　2/2

```
class leftshift_operator
{
    public static void main(String args[])
    {
        byte x = 64;
        int i;
        byte y;
        i = x << 2;
        y = (byte) (x << 2)
        System.out.print(i + " " + y);
    }
}
```

○　0 64

○　64 0

○　0 256

◉　256 0　　　　　　　　　　　　　　　　　　　　　　　　✓

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