Core Java Final Quiz

1. Show the output of the following program:

public class Test {

public static void main(String[] args) {

xMethod(5);

}

public static void xMethod(int n) {

if (n > 0) {

System.out.print(n + " ");

xMethod(n - 1);

}

}

}

A. The output is 1 2 3 4 5

**B. The output is 5 4 3 2 1**

C. The output is 1 3 5 2 4

D. The output is 1 4 3 2 5

2. a ----- file consists of a sequence of characters and a --- file consists of a sequence of bits.

A. Binary, Text

B. Document, Text

**C. Text, Binary**

D. Document, Binary

3. A Java I/O object is called a ----. An object for reading data is called an --------- and an object for writing data is called an ..........

A. input steam, output stream, Stream

B. input steam,Stream, output stream

C. Stream,output stream, input steam

**D. Stream, input steam, output stream**

4. What will happen if you attempt to create an input stream on a nonexistent file?

What will happen if you attempt to create an output stream on an existing file?

Can you append data to an existing file?

A. No error will occur.

**B. A FileNotFoundException would occur if you attempt to create an input stream for a nonexistent file.**

C. Complile Fails

D. Runtime Exception would occur

5. Which of the following statements are true?

i. Any recursive method can be converted into a nonrecursive method.

ii. Recursive methods take more time and memory to execute than nonrecursive methods.

iii. Recursive methods are always simpler than nonrecursive methods.

iv. There is always a selection statement in a recursive method to check whether a base case is reached.

A. i,ii,iii,iv

B. i,ii,iii

**C. i,ii,iv**

D. i,iv

**6. Are there any compile errors in the following code.**

1. Prior to JDK 1.5

ArrayList dates = new ArrayList();

dates.add(new Date());

dates.add(new String());

1. Yes B. **No**
2. **What is wrong in the following code?**

ArrayList dates = new ArrayList();

dates.add(new Date());

Date date = dates.get(0);

1. No wrong.
2. B. **Casting is needed** C. No Casting is needed D. None of the Above.
3. **What are the benefits of using generic types?**
4. One important benefit is improving reliability and robustness.
5. Potential errors can be detected by the compiler.
6. **Both A and B**
7. None of the above.
8. **What is the generic definition for java.lang.Comparable in the Java API?**
9. **package java.lang;**

**public interface Comparable<E> {**

**public int compareTo(E o) { }**

**}**

1. package java.util;

public interface Comparable<E> {

public String compareTo(E o) { }

}

1. **Since you create an instance of ArrayList of strings using new ArrayList<String>(), should the constructor in the ArrayList class be defined as**

**public ArrayList<E>()**

1. **No.**
2. B.Yes
3. **Given int[] list = {new Integer(1), new Integer(2), new Integer(-1)}, can you invoke sort(list) using the sort method in Listing 19.4?**
4. **No, because list is still of type int[], but the sort method requires E[], where E is an object type.**
5. Yes.
6. **What is a raw type?**
7. **When you use generic type without specifying an actual parameter, it is called a raw type.**
8. When you use generic type specifying an actual parameter, it is called a raw type.
9. **None the above.**
10. **Both A and B**
11. **Why is the raw type allowed in Java?**
12. The raw type is not allowed in Java for backward compatibility.
13. **The raw type is allowed in Java for backward compatibility.**
14. The raw type is allowed in Java for removing compile error.
15. **What is the syntax to declare an ArrayList reference variable using the raw type and assign a raw type ArrayList object to it?**
16. **ArrayList list = new ArrayList();**
17. HashMap list=new List();
18. List list=new List();
19. Set list=new HashSet();
20. **What are an unbounded wildcard, a bounded wildcard, and a lower-bound wildcard?**
21. ? is unbounded wildcard ,? super T is lower bounded wildcard ? extends T is bounded wildcard
22. **? is unbounded wildcard , ? extends T is bounded wildcard, ? super T is lower bounded wildcard**
23. ? extends T is bounded wildcard, ? super T is lower bounded wildcard, ? is unbounded wildcard ,
24. **Can you create an instance using new E() for a generic type E? Why?**
25. **No, because the type information is not available at runtime.**
26. Yes

**17. Why are generics used?**  
a) Generics make code more fast  
b) Generics make code more optimised and readable  
**c) Generics add stability to your code by making more of your bugs detectable at compile time**d) Generics add stability to your code by making more of your bugs detectable at run time

**18. Which of these type parameters is used for a generic class to return and accept any type of object?**  
a) K  
b) N  
**c) T**  
d) V

**19. Which of these is an correct way of defining generic class?**  
a) class name(T1, T2, …, Tn) { /\* … \*/ }  
**b) class name { /\* … \*/ }**  
c) class name[T1, T2, …, Tn] { /\* … \*/ }  
d) class name{T1, T2, …, Tn} { /\* … \*/ }

20**. Which of the following is incorrect statement regarding the use of generics and parameterized types in Java?**  
a) Generics provide type safety by shifting more type checking responsibilities to the compiler  
b) Generics and parameterized types eliminate the need for down casts when using Java Collections  
**c) When designing your own collections class (say, a linked list), generics and parameterized types allow you to achieve type safety with just a single class definition as opposed to defining multiple classes**  
d) All of the mentioned

21.What is the time complexity for an insertion sort?

**A. The time complexity for an insertion sort is O(n^2).**

B. The time complexity for an insertion sort is O(n/2).

C. The time complexity for an insertion sort is O(n).

D. The time complexity for an insertion sort is O(n2).

22. What is the time complexity for a merge sort?

A. The time complexity for a merge sort is O(n-1).

A. The time complexity for a merge sort is O(n/2).

A. The time complexity for a merge sort is O(n2).

**A. The time complexity for a merge sort is O(nlogn).**

23. Why is quick sort more space efficient than merge sort?

1. Quick sort needs to create temporary arrays, while merge sort does not need temporary arrrys.
2. **Quick sort does not need to create temporary arrays, while merge sort needs temporary arrrys.**
3. Quick sort needs to create temporary arrays, while merge sort needs temporary arrrys.
4. None of the above

24. Which of the following statements are wrong?

1. Heap<Object> heap1 = **new** Heap<>();
2. Heap<Number> heap2 = **new** Heap<>();
3. Heap<BigInteger> heap3 = **new** Heap<>();
4. Heap<Calendar> heap4 = **new** Heap<>();
5. Heap<> heap5 = **new** Heap<>();
6. Lines 2 and 3 are wrong
7. Lines 1 and 3 are wrong
8. Lines 2 and 5 are wrong
9. **Lines 1 and 2 are wrong**

25. What is the time complexity of inserting a new element into a heap and what is the time complexity of deleting an element from a heap?

1. O(logn) for only insertion.
2. O(logn) for only deletion.
3. O(logn) for none of insertion and deletion.
4. **O(logn) for both insertion and deletion.**

26. Can you sort a list of strings using a bucket sort?

1. Yes, Bucket sort is suitable for sorting strings.
2. **No, Bucket sort is not suitable for sorting strings.**

27. What is a priority queue?

1. In a priority queue, elements are not assigned with priorities. When accessing elements, the element with the highest priority is removed first.
2. In a priority queue, elements are assigned with priorities. When accessing elements, the element with the highest priority is not removed first.
3. **In a priority queue, elements are assigned with priorities. When accessing elements, the element with the highest priority is removed first.**
4. None of the above

**28.** What method is defined in the java.lang.Iterable<E> interface?

1. The iterator() method is defined in the java.lang.List interface.
2. The iterator() method is defined in the java.lang.Set interface.
3. The iterator() method is defined in the java.lang.HashSet interface.
4. **The iterator() method is defined in the java.lang.Iterable interface.**

**29.** What is the benefit of being a subtype of Iterable<E>?

1. Being a subtype of Iterable, the elements of the container cannot be traversed using a for-each loop.
2. **Being a subtype of Iterable, the elements of the container can be traversed using a for-each loop.**
3. None of the above.

**30.** What is an AVL tree? Describe the following terms: balance factor, left-heavy, and right-heavy.

1. **AVL trees are well-balanced. In an AVL tree, the difference between the heights of two subtrees for every node is 0 or 1.**
2. AVL trees are not well-balanced. In an AVL tree, the difference between the heights of two subtrees for every node is 0 or 1.
3. AVL trees are well-balanced. In an AVL tree, the difference between the heights of two subtrees for every node is more than 1.
4. AVL trees are well-balanced. In an AVL tree, the difference between the heights of two subtrees for every node is 0 or 1.

**31.** What are data fields in the AVLTree class?

1. All data fields defined in the BST class are inherited in the AVLTree class.
2. The AVLTree class does not define new data fields.
3. **Both A and B**
4. None Of the above.

**32.** How many main parts of thread or execution context?

a) 4 b)5

c)**3** d)2

**33.** A thread constructor takes an argument that is an instance of\_\_\_\_\_.

**a)** Running b) New

**c)** Dead d) **Runnable**

34. The sleep method is one way to\_\_\_a thread for a period of time.

a) moving b)**halt**

c) running d) none

**35.** By which method can push Thread for preiod of time?

**a. Thread.sleep();**

b. Thread.start();

c. Thread.start-sleep();

d. Thread.sleepthread();

**36.** What is the default prioruty in java Thread ?

a. Thread.MIN\_PRIORITY

**b. Thread.NORM\_PRIORITY**

c. Thread.MAX\_PRIORITY

**37.** Which class is enables to create and control threads?

a. Java.swing.thread

b. Java.awt.thread

**c. Java.lang.thread**

d. Javax.swing.thread

38. The word preemptive means ---

a. Previously it was empty

b. Not primitive

**c. Time-slicing**

d. None of these

**39.** The term “isAlive” means is details \_\_\_\_\_\_\_?

a. The thread has been started and its task has been finished

**b. The thread has been started but its task has not been completed**

c. The thread has been started and already completed its job

d. The thread has been started and still it continues

40. What is a runnable object?

**A. An instance of Runnable is a runnable object.**

B. An instance of Running state is a runnable object.

C. An instance of sleep state is a runnable object.

**41. How do you set a priority for a thread?**

A. You use the putPriority() method to set the priority for a thread

B. You use the addPriority() method to set the priority for a thread

**C. You use the setPriority() method to set the priority for a thread**

D. You use the getPriority() method to set the priority for a thread

42. What is the purpose of using Platform.runLater?

A. **Invoking Platform.runLater(Runnable r) tells the system to run a task in the JavaFX application thread.**

B. Invoking Platform.runLater(Runnable r) does not tell the system to run a task in the JavaFX application thread.

**CHAPTER 17**

**43. which class contain in this mentod of getBounds(), getSize(), getLocation()**

**a.component**

**b. container**

**c.Frame**

**44.getToolkit mentod is a member of component class**

**a.true**

**b.false**

**45.RGB stand for**

**a.red, green, blue**

**b. red, grow, blue**

**c.rat, green, black**

**46. How can you create a text cursor?**

**a.Cursor cor=new cursor();**

**b.Cursor cor=new Cursor(Cursor.TEXT\_CURSOR);**

**C.Cursor cor=new cursor(TEXT\_CURSOR);**

47.The main()method calls \_\_\_\_\_\_\_\_\_ for the a Window object.

a)two methods

b)three methods

c)four methods

d)five methods

48.There are three other argument values you could use with the setDefaultCloseOperation() method that are defined in the WindowConstants interface.These values ares:(Three correct choice)

a)DISPOSE\_OF\_CLOSE

b)DISPOSE\_ON\_CLOSE

c)DO\_NOTHING\_ON\_CLOSE

d)Do\_ANYTHING\_ON\_CLOSE

e)HIDE\_ON\_CLOSE

49.The Container class defines the following four overloaded versions of the add()method:(two correct chice)

a)Componentance add(Comparator f)

b)Comparator add(Comparable w)

c)void add (Component c, Object constraints int index)

d)Component add(Component c,int index)

50.The fundamental elements that you need to create a GUI reside in two packages, which are those?

a)java.awt and java.swing

b)java.swing and java.lang

c)java.awt and java.util

d)java.swing and java.io

51. What is an event in delegation event model used by Java programming language?

a) An event is an object that describes a state change in a source.

b) An event is an object that describes a state change in processing.

c) An event is an object that describes any change by the user and system.

d) An event is a class used for defining object, to create events.

52. Which of these methods are used to register a keyboard event listener?

a) KeyListener()

b) addKistener()

c) addKeyListener()

d) eventKeyboardListener()

53. What is a listener in context to event handling?

a) A listener is a variable that is notified when an event occurs.

b) A listener is a object that is notified when an event occurs.

c) A listener is a method that is notified when an event occurs.

d) None of the mentioned

54. Which of these class is super class of all the events?

a) EventObject

b) EventClass

c) ActionEvent

d) ItemEvent

55. Which of these events will be generated if we close an applet’s window?

a) ActionEvent

b) ComponentEvent

c) AdjustmentEvent

d) WindowEvent

56. Which of these modifiers can be used for a variable so that it can be accessed from any thread or parts of a program?

a) transient

b) volatile

c) global

d) No modifier is needed

57. What is the Message is displayed in the applet made by this program?

import java.awt.\*;

import java.applet.\*;

public class myapplet extends Applet {

public void paint(Graphics g) {

g.drawString("A Simple Applet", 20, 20);

}

}

a) A Simple Applet

b) A Simple Applet 20 20

c) Compilation Error

d) Runtime Error

58. Which of these events is generated when a button is pressed?

a) ActionEvent

b) KeyEvent

c) WindowEvent

d) AdjustmentEvent

59. Which of these methods can be used to obtain the command name for invoking ActionEvent object?

a) getCommand()

b) getActionCommand()

c) getActionEvent()

d) getActionEventCommand()

19. Which of these are integer constants defined in ActionEvent class?

a) ALT\_MASK

b) CTRL\_MASK

c) SHIFT\_MASK

d) All of the mentioned

60. Which of these methods can be used to know which key is pressed?

a) getKey()

b) getModifier()

c) getActionKey()

d) getActionEvent()

61. FocusEvent is subclass of which of these classes?

a) ComponentEvent

b) ContainerEvent

c) ItemEvent

d) InputEvent

62. Which of these methods can be used to know the type of focus change?

a) typeFocus()

b) typeEventFocus()

c) isTemporary()

d) isPermanent()

63. Which of these methods will respond when you click any button by mouse?

a) mouseClicked()

b) mouseEntered()

c) mousePressed()

d) All of the mentioned

64. Which of these methods will be invoked if a character is entered?

a) keyPressed()

b) keyReleased()

c) keyTyped()

d) keyEntered()

65. Which of these methods is defined in MouseMotionAdapter class?

a) mouseDragged()

b) mousePressed()

c) mouseReleased()

d) mouseClicked(