

*Which component is used to compile, debug and execute the java programs ?*

- JRE
- **JDK**
- JVM
- None

*Which of these cannot be used for a variable name in Java ?*

- Identifier & Keyword
- Identifier
- **Keyword**
- None of the mentioned

*Which of the following option leads to the portability and security of Java ?*

- **Bytecode is executed by JVM**
- The applet makes the Java code secure and portable
- Use of exception handling
- Dynamic binding between objects

*Which of the following for loop declaration is not valid ?*

- **for ( int i = 99; i >= 0; i / 9 )**
- for ( int i = 7; i <= 77; i += 7 )
- for ( int i = 20; i >= 2; --i )
- for ( int i = 2; i <= 20; i = 2 \* i )

*Which of the following is a superclass of every class in Java ?*

- ArrayList
- **Abstract class**

- **Object class**
- String

*Which is not correct option to check contents of 2 strings ?*

- compareTo
- **equals**
- == operator

*Which class in Java represents a Thread-Safe Version ?*

- String
- **StringBuffer**
- StringBuilder
- All of the above

*Which of the following statement is true ?*

- Java does not support Operator Overloading
- Java supports function/method Overloading
- function/method overloading is a type of Polymorphism
- **All of the options seem to be true**

*Recursion is a method in which the solution of a problem depends on \_\_\_\_\_*

- Larger instances of different problems
- Larger instances of the same problem
- **Smaller instances of the same problem**
- Smaller instances of different problems

*Recursion is similar to which of the following ?*

- Switch Case
- **Loop**

- If-else
- if elif else

*Which of the following access modifiers helps in encapsulation ?*

- global
- **private**
- public
- static

*How can you create Object of the class User ?*

- **User user = new User();**
- User object;
- User\* object = new User();
- User user[];

*Which is incorrect about static methods ?*

- You can invoke static methods with class name
- You can invoke static methods with reference variable to the objects
- **You can invoke static methods by using their names inside the same class.**
- You can execute static methods using their names outside in some other class.

*How can you differentiate between instance variables and local variables inside a method ?*

- using static keyword
- **using this keyword**
- using object name
- using class name

*What is incorrect about Object ?*

- A storage container in memory
- An instance of a class
- Used to execute non static methods

- A member of a class

***Why do you return from a method ?***

- to end the execution of a function, and returns control to the calling function.
- to quit the program
- to compute result for an equation
- to create a storage container in memory

***How will you execute the setTitle method in Organization class ?***

```
class Organization {  
    static String title;  
  
    static void setTitle(String name) {  
        title = name;  
    }  
}
```

- **Organization organization = new Organization();  
organization.setTitle("Amazon");**
- Organization.setTitle("Amazon");
- Both a and b
- None of the above

***What will be the output for the below code ?***

```
class Point {  
    int x, y;  
  
    void setPoint(int x, int y) {  
        x = x;  
        y = y;  
    }  
  
    void showPoint() {  
        System.out.println(x+" "+y);  
    }  
}
```

```
}  
}  
  
Point point = new Point();  
point.setPoint(10, 20);
```

- 0 0
- 10 20
- Compile Time Error
- None of the above

*Which is an indexed data structure ?*

- LinkedList
- Stack
- **Array**
- Queue

*Which data structure supports FIFO ?*

- LinkedList
- Stack
- Array
- **Queue**

*Which data structure supports LIFO ?*

- LinkedList
- **Stack**
- Array
- Queue

*If you wish to develop Google Maps, which data structure will you choose ?*

- Tree
- **Graph**
- Map

- LinkedList

***Which data structure will you use to issue parking tickets at entry of the parking sites ?***

- Stack
- **Queue**
- LinkedList
- Any one can be used

***Which is not a linear data structure ?***

- Stack
- Queue
- **Tree**
- LinkedList

***CD i.e. a Compact Disk used to play music uses which data structure ?***

- Doubly Linked List
- **Circular Doubly Linked List**
- Singly Linked List
- HashTable

***When you scroll the Conversations in WhatsApp which data structure is used ?***

- **Doubly Linked List**
- LinkedList
- Circular Doubly Linked List
- Queue

***Which of the below is not an appropriate method for Stack ?***

- push
- pop

- iterate
- **RemoveFromMiddle**

***What is a hash table ?***

- A structure that maps values to keys
- **A structure that maps keys to values**
- A structure used for storage
- A structure used to implement stack and queue

***If several elements are competing for the same bucket in the hash table, what is it called ?***

- Diffusion
- Replication
- **Collision**
- Duplication

***What is direct addressing ?***

- **Distinct array position for every possible key**
- Fewer array positions than keys
- Fewer keys than array positions
- Same array position for all keys

***What is the search complexity in direct addressing ?***

- $O(n)$
- $O(\log n)$
- $O(n \log n)$
- **$O(1)$**

***Choose the correct option in context to hashing ?***

- A function has allocated memory to keys

- **A function that computes the location of the key in the array**
- A function that creates an array
- A function that computes the location of the values in the array

*In which algorithm, current element is compared to the next element, and is conditionally swapped?*

- quick sort
- selection sort
- **bubble sort**
- insertion sort

*Which of the following is false about insertion sort ?*

- **good for small elements as it becomes slow for large numbers**
- the objective is to insert each element into its proper place
- divide & conquer is the best mechanism for insertion sort
- insertion sort avoids using an extra array

*Why is recursion dangerous sometimes ?*

- **if the exit condition is not proper than it may run infinitely**
- it is slower than regular functions
- not effective in terms of space & time
- all the options seem to be true

*The technique of breaking a problem into subproblems, which are similar to the original problem is primarily used in ?*

- merge sort & bubble sort
- quick sort & bubble sort



- merge sort & quick sort
- insertion sort & quick sort

*Which algorithm is an ideal choice for an almost sorted array ?*

- merge sort
- quick sort
- selection sort
- **insertion sort**

*Which of the following is false ?*

- constructor cannot be final
- constructors can call other constructors
- **default constructor has to be mandatorily created by user**
- constructor cannot have a return type

*Which of the following is not true about final ?*

- final methods can be overloaded
- final methods can not be overridden
- final variables can not change their values
- **final class can be inherited if all attributes are final**

*super is not used for ?*

- calling parent constructor
- calling parent method
- addressing parent variables
- **calling child constructor**

*Which of the following inheritance is not supported in java ?*

- single
- **multiple**
- multilevel
- hierarchical

*What is false about overloading and overriding ?*

- return type being different is not a criteria for overloading
- **return type being different is allowed in overriding**
- method overloading is static polymorphism
- overridden methods allows more or equal (but not less) access modifiers

*Why can interfaces always lead to 100% abstraction, but abstract classes may or may not ?*

- **abstract classes can have non abstract methods**
- interfaces can have final variables, abstract classes can not
- interface can provide the implementation of abstract methods
- abstract classes can only have static & final variables

*Which of the following is false about protected members ?*

- They are accessible by the classes of the same package
- They are accessible by the sub-classes of the same package
- classes can not be declared protected
- **all options seem to be true**

*Which of the following is false about packages ?*

- a package can have only one class file
- a package can have sub packages
- package name & directory name are same
- a specific class of a package can be imported using the dot operator

*Which of the following is not true for runtime polymorphism ?*

- methods of child and parent class must have the same name
- can not override static methods
- **can override final methods**
- cannot override the private methods of a parent class

*An interface method can not have \_\_\_\_\_ modifier.*

- abstract
- static
- **protected**
- default

*Which of the following can not be traversed in a straight line to touch all the elements ?*

- queue
- circular linked list
- **tree**
- array

*What is the possible number of binary trees that can be created with 3 nodes, giving the sequence N, M, L when traversed in post-order.*

- 1
- 3
- 5
- 8

*Which of the following graph traversals closely imitates level order traversal of a binary tree ?*

- Depth First Search
- **Breadth First Search**
- Depth & Breadth First Search
- Binary Search

*Which of the following is true ?*

- A binary tree can not be complete & full
- Every full binary tree is also complete
- A binary tree is either complete or full
- **All the options seem false**

*The maximum number of binary trees that can be formed with three unlabelled nodes is :*

- 1
- 4
- 3
- 5

