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## Cyient Java Interview Questions

### Q1. List types of storage classes in java?

There are basically four types of storage classes in Java:

- **Automatic storage class:** When a variable that is used in the coding is defined within a function and that also with the auto specifier then it simply belongs to this storage class.
- **Register storage class:** Those variables in the coding which are declared by the register specifier then it belongs to this storage class.
- **Static storage class:** It has a function to declare the variable with the help of the static specifier and that is how it belongs to the static storage class.
- **External storage class:** The main objective with this is that the variable which is being declared consists of external linkage.

### Q2. Write a java program to generate fibonacci series ?

### Q3. How does the garbage collector works in Java?

### Q4. What is difference between throw and throws ?

Difference between throw and throws are:

#### **Throw**

It is basically used inside the function. It is used when it needs to insert the exception.

It is used to basically use the exception. It can throw only a single exception at ones.

The exception which is been thrown cannot be checked here.

#### **Throws**

It is basically present in the function signature. Here if the functions have the same statements then it can result in certain exceptions.

Here multiple exceptions can be thrown and then whichever matches are thrown automatically.

Here for the propagation purpose, the throws can use the throw keyword. Here it can use the specific exception class.

### Q5. Write a program to check String is Palindrome without using loop?

### Q6. What is used of static keyword in Java?

**Q7. What is difference between java and c?**

**Q8. Why is string buffer better than string ?**

**Q9. Explain exception chaining in Java?**

**Q10. What is OutOfMemoryError in Java?**

**Q11. What is difference between final and finally in Java?**

**Q12. What is Exception in Java?**

**Exception in Java** is basically an event that takes place all of a sudden. This is really unexpected and also unwanted. Mostly it happens when the program is ready to execute and during the runtime, it can break the normal and easy flow of the program. These exceptions can be also called errors. At a time when the error occurs the method which is present there sets an object which is then sent to the runtime process.

**Q13. How to write custom exception in Java?**

A custom exception is also known as a user-defined exception are derived classes of Java Exception classes. In order to create your Custom exception in Java following point must be taken care of.

- All exceptions must be a child of Throwable.
- If you want to write a checked exception that is automatically enforced by the Handle or Declare Rule, you need to extend the Exception class.
- If you want to write a runtime exception, you need to extend the RuntimeException class.

**Custom exception example in Java**

```
class InvalidAgeException extends Exception{
    InvalidAgeException(String s){
        super(s);
    }
}
class CustomExceptionTest{

    static void validate(int age)throws InvalidAgeException{
        if(age<18)
            throw new InvalidAgeException("not valid");
        else
            System.out.println("welcome to vote");
    }
}
```

```

    }

    public static void main(String args[]){
        try{
            validate(13);
        }catch(Exception m){System.out.println("Exception occurred: "+m);}

        System.out.println("rest of the code...");
    }
}

```

Above is an example of a custom exception in Java that checks the age of voter. If age is less than 18 years than it throws an InvalidAgeException.

**Q14. How can you catch multiple exceptions in java?**

**Q15. What is the difference between a checked and an unchecked exception?**

Whenever an exception is generated in Java it is either type of a checked or unchecked exception. Below are the few differences between checked and unchecked exceptions in Java.

**Checked Exception**

Checked exceptions are checked at compile-time.

Interrupted Exception, file not found, Class Not Found are few Checked exceptions.

**Unchecked Exception**

Unchecked exceptions are not checked at compile time

Empty Stack Exception, Arithmetic Exception, Null Pointer Exception, Array Index Out of Bounds Exception are few Unchecked exceptions

# Difference Between Checked And Unchecked Exceptions

Exceptions that are checked and handled at compile time are checked exceptions.	Exceptions that are not checked and handled at compile time are unchecked exceptions.
They are direct subclasses of Exception but do not inherit from RuntimeException.	They are a direct subclass of RuntimeException class.
The program gives a compilation error if a method throws a checked exception and the compiler is not able to handle the exception on its own.	The program compiles fine because the exceptions escape the notice of compiler. Exceptions occur due to errors in programming logic.
A Checked Exception occurs when the chances of failure are too high.	Unchecked Exception occurs mostly due to programming mistakes.
Common checked exceptions include IOException, DataAccessException, IllegalAccessException, InterruptedException, etc.	Common unchecked exceptions include ArithmeticException, InvalidClassException, NullPointerException, etc.

## Q16. What are meta-annotations?

**Meta annotations** are annotations that are used to annotate other annotation types. In Java java.lang.annotation package contains four annotation types they are @Documented, @Inherited, @Repeatable, @Target.

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