Java Interview Q&A on Exception Handling

- **By SivaReddy**

1) What is Exception and Error?
2) What is checked and unchecked exception in Java?
3) What is exception handling & hierarchy of Exception handling in Java?

```
o java.lang.Throwable (implements java.io.Serializable)
    o java.lang.Error
        o java.lang.AssertionError
        o java.lang.LinkageError
            o java.lang.BootstrapMethodError
            o java.lang.ClassCircularityError
            o java.lang.ClassFormatError
                o java.lang.UnsupportedClassVersionError
            o java.lang.ExceptionInInitializerError
            o java.lang.IncompatibleClassChangeError
                o java.lang.AbstractMethodError
                o java.lang.IllegalAccessError
                o java.lang.InstantiationError
                o java.lang.NoSuchFieldError
                o java.lang.NoSuchMethodError
            o java.lang.NoClassDefFoundError
            o java.lang.UnsatisfiedLinkError
            o java.lang.VerifyError
        o java.lang.ThreadDeath
        o java.lang.VirtualMachineError
            o java.lang.InternalError
            o java.lang.OutOfMemoryError
            o java.lang.StackOverflowError
            o java.lang.UnknownError
    o java.lang.Exception
        o java.lang.CloneNotSupportedException
        o java.lang.InterruptedException
        o java.lang.ReflectiveOperationException
            o java.lang.ClassNotFoundException
            o java.lang.IllegalAccessException
            o java.lang.InstantiationException
            o java.lang.NoSuchFieldException
            o java.lang.NoSuchMethodException
        o java.lang.RuntimeException
            o java.lang.ArithmeticException
            o java.lang.ArrayStoreException
            o java.lang.ClassCastException
            o java.lang.EnumConstantNotPresentException
            o java.lang.IllegalArgumentException
                o java.lang.IllegalThreadStateException
                o java.lang.NumberFormatException
            o java.lang.IllegalMonitorStateException
            o java.lang.IllegalStateException
            o java.lang.IndexOutOfBoundsException
```

4) Exception mechanism in Java (try, catch, throw, throws, finally)?
5) What is the mandatory condition need to be take care when multiple catch blocks defined for single try block?
6) What is the use of finally block? Is it possible finally block does not execute in some scenario?
7) How to create custom checked and unchecked exception?
   Custom Checked Exception:

```java
public class MyCustomCheckedException extends Exception{
    public MyCustomCheckedException(String exceptionMsg) {
        super(exceptionMsg);
    }
    public static void main(String[] args) {
        MyCustomCheckedException checkedException
        = new MyCustomCheckedException("MyCustomCheckedException");

    }
}
```

Custom unchecked exception:

```java
public class MyCustomUncheckedException extends RuntimeException{
    public MyCustomUncheckedException(String exceptionMsg) {
        super(exceptionMsg);
    }
    public static void main(String[] args) {
        MyCustomUncheckedException uncheckedException
        = new MyCustomUncheckedException("MyCustomUncheckedException");

    }
}
```

8) When to use throw and throws?
9) What happens if programmer does not handle the exception or what is default exception handle mechanism done by JVM?
10) How to handle exception handling in Overriding or inheritance?
   ➤ If super class does not declare an exception
   ➤ If super class declare an exception