ExceptionHandling with MethodOverriding

There are some rules which are to be followed when there is case of method overriding:

**Rule2:** If the superclass method does not declare an exception, subclass overridden method can only declare unchecked exception.

```java
class Parent{
    void show()
    {
        System.out.println("parent-exception");
    }
}
class Child extends Parent{
    void show() throws ArithmeticException
    {
        System.out.println("child-exception");
    }
    public static void main(String args[])
    {
        Parent p=new Child();
        p.show();
    }
}
```

**Rule3:** If the superclass method declares an exception, subclass overridden method can declare same, subclass exception or no exception but it cannot declare the parent exception.

```java
class Parent{
    void show() throws ArithmeticException
    {
        System.out.println("parent-exception");
    }
}
class Child extends Parent{
    void show() throws Exception
    {
        System.out.println("child");
    }
```
```java
public static void main(String args[]) {
    Parent p=new Child();
    p.show();
}

Explaination: we see that parent class has ArithmeticException which is sub-class Exception of parent Exception class.

**Rule4:** When same exception is thrown in sub class as well as in parent class, there will be no error.
Rule5: when subclass overridden method declares subclass exception, there is no error

```java
class Parent{
    void show() throws Exception
    {
        System.out.println("parent- exception");
    }
}

class Child extends Parent{
    void show() throws ArithmeticException
    {
        System.out.println("child- exception");
    }
}

public static void main(String args[]){
    Parent p=new Child();
    p.show();
}
```

No error because Parent overridden method throws Exception and sub class method throws sub class exception.

Exercise:
1. Write the difference between throw and throws keyword in java with proper examples.
2. Write down the different scenarios when method overriding with exception occurs in java.