Exception Handling

Exception it is an abnormal situation which occurs during execution of program.

Whenever an exception occurs the execution of program gets forcefully stopped.

There are two types of exceptions

1. Checked exception
2. Unchecked exception

Checked exception:

Checked exceptions are compiler aware exceptions, for checked exceptions declaration and handling the exception is mandatory.

Unchecked exception:

Unchecked exceptions are compiler unaware exceptions .for unchecked exceptions declaring and handling the exceptions are not mandatory for compile time.

Unchecked exceptions: error class and its sub type, runtime exception and its sub clsses are unchecked exceptions.

Exception handling mechanism:

A mechanism which is used to handle the exception is called as exception handling mechanism.

We can use exception handling mechanism for both checked exception and unchecked exceptions.

Exception handling mechanism consists two blocks try and catch block.

Syntax:

```
try {
//statements
}
Catch( className    var_name) {
//statements
}
```

Try block:

Statements which are responsible to create an exception those set of statements has to be written inside try block.

Try block it will throw a object to catch block.

Catch block:

Catch block is used to catch the object given by try block. If the exception is caught execution of the programme will continue. Catch block is responsible to handle the exception.

Note:

we can declare more than one catch blocks with a single try block.

To write a catch block at least one try block is required.

Finally block:

When a task is mandatory for execution even if exception is handled or not such task are written inside finally block.

Finally block is prefixed with finally keyword.

We can use finally block with the help of try and catch block.

In order to use finally block at least one try block is mandatory.

Checked Exception:

All the sub-classes of exception class except runtime exception and its subclasses are checked exceptions.

Checked exceptions are compiler aware exceptions.

For checked exceptions declaring and handling the exceptions are mandatory.

Example:

```
try {
FileOutputStream fileOutputStream=new
FileOutputStream("Demo.txt");
        }
catch (FileNotFoundException e) {
            // TODO Auto-generated catch
block
            e.printStackTrace();
        }

    }
```

Throws:

It is keyword in java.

We can use throws keyword with the help of method header.

Throws keyword it is used to declare or ignore a exception during compile time.

With the help of throws keyword we can declare more than one exception.

We can declare multiple exceptions using throws keyword these exceptions must be checked type or subclasses of runtime exception.

Syntax:

Method_header throws exception1, exception2….., exception n

Example:

FileNotFoundException:

It is an sub-class of exception class.

It is an checked exception. For checked exception declaring and handling the exception is mandatory.

Throw:

Throw keyword is used for writing custom exception.

We can throw only one exception at a time using throw keyword.

Throw keyword is used inside method block.

Questions:

1. Difference between try and catch block.
2. Difference between checked exception and unchecked exception.
3. Can we write other statements between try catch and finally block.
4. can we write only try block without catch and finally block.
5. Difference between throw and throws keyword.
6. Difference between final, finally, finlize().
7. What is exception Propogation