**Exception Handling**

**Exception handling** is one of the most important feature of Java programming that allows us **to handle the runtime errors caused** by exception.

**Exception:** is an unwanted event that interrupts the normal flow of the program.

Exceptions are events that occurs in the code. when exception occurs program, execution gets terminated. in such cases we get a system generated error message.

By handling exception, we can provide a meaningful message to the user about the issue rather than a system generated message.

**Errors:** indicates something severe enough has gone wrong. the application should crash rather than try to handle the error.

**Advantages of Exception handling** ensures that the flow of the program doesn't break when an exception occurs.

**Types of Exceptions**

**1.Checked Exception:** are checked at compile time

Compiler checks them during compilation to see whether the programmer has handled them or not.

**2.Unchecked Exception:** Runtime Exception are also known as Unchecked Exceptions. These exceptions are not checked at compile-time as complier does not check whether the programmer has handled them or not but it's the responsibility of the programmer to handle these exceptions and provide a safe exit.

**Checked exception** are **handled by** using **try -catch block**, if the method is throwing exception, we use throws keyword.

A **try block** is **always followed by catch block** which handles exception

**1. try block**

syntax :

try {

statements;

statements;

statements;

}catch( exception(type) e(object))

A single try block can have multiple catch blocks

**2. nested try block**

try {

statements;

statements;

try {

statements;

statements;

statements;

try {

statements;

statements;

statements;

}catch( exception(type) e(object))

}catch( exception(type) e(object))

statements;

}catch( exception(type) e(object))

**Finally block :** contains all the critical statements that must be executed whether exception occurs or not.

the **statements present in finally** block **will always execute regardless of whether exception occurs in try block or not**.