Exception Handling:

→ In a normal flow of execution, if an abnormal situation occurs then jvm will terminate the program by throwing the exception class object.
→ Exception

Exception Handling

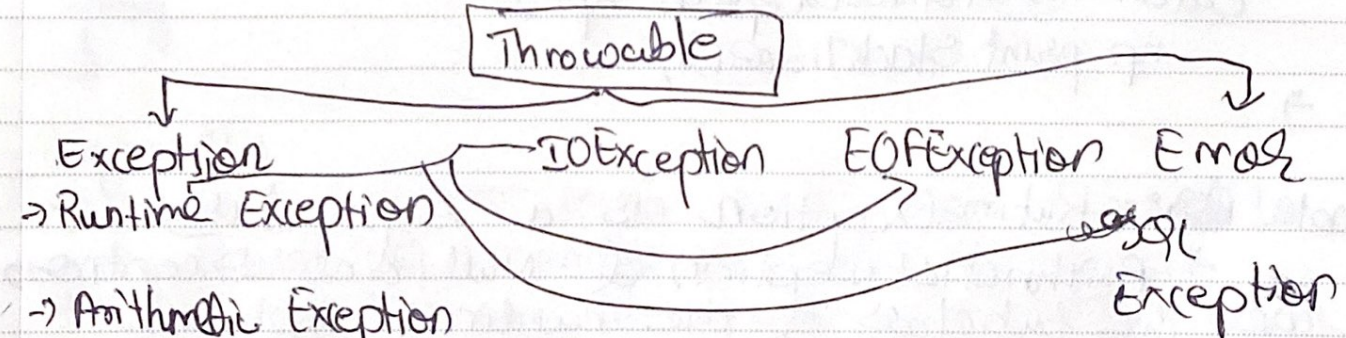
→ For exception handling we can use

```
try {
    risky code;
}
catch (ExceptionClassname reference) {
 msg related to exception.
}
```

Exception Handling means, to skip the instruction with the exception & execute the remaining part of the program correctly.
→ or to stop the inappropriate termination of program.

we have two predefined classes.

1) Class
2) Object: Object class is the super class for all the classes.



Exception is classified into 2 types:

1) Un-checked Exceptions: The exceptions which are unknown to the compiler

2) checked Exceptions
   → The exceptions which are known to the compiler then those are checked exceptions.

~~to s.toString()~~

System.out.println(s.toString());
→ toString convert object into message

System.out.println(s.getMessage());
→ give message

java.lang.ArithmeticException
→ to see the arithmetic exception

s.printStackTrace();
→ it will trace back

catch(NullPointerException np)
np.printStackTrace();
→

Note :- RutimeException is a superclass
→ ArithmeticException & NullPointerException are the subclass of the runtimeException

RutimeException is a subclass of the the exception.

→ The order of the catch block must be from subclass name to the superclass name

Format for the exception handling

1)
```
try {
  risky code;
}
catch (ExceptionClass ref){
  msg
}
```

2)
```
try {
  risky code;
  try {
    risky code;
  }
  catch (ExceptionClass ref){
    msg
  }
}
catch (Exception Class ref){
  msg
}
```

3)
```
try {
  risky code;
}
catch (ExceptionClass ref
  msg
}
catch (ExceptionClass ref){
  msg
}
```

4)
```
try {
  risky code;
}
catch (ExceptionClass
  ref) {
  msg
}
```

→ finally ~~when exception~~ is a block which is used to deallocate the memory or close the objects

→ when exception is not catch by catch then finally helps to block.

→ is a block which gets executed irrespective

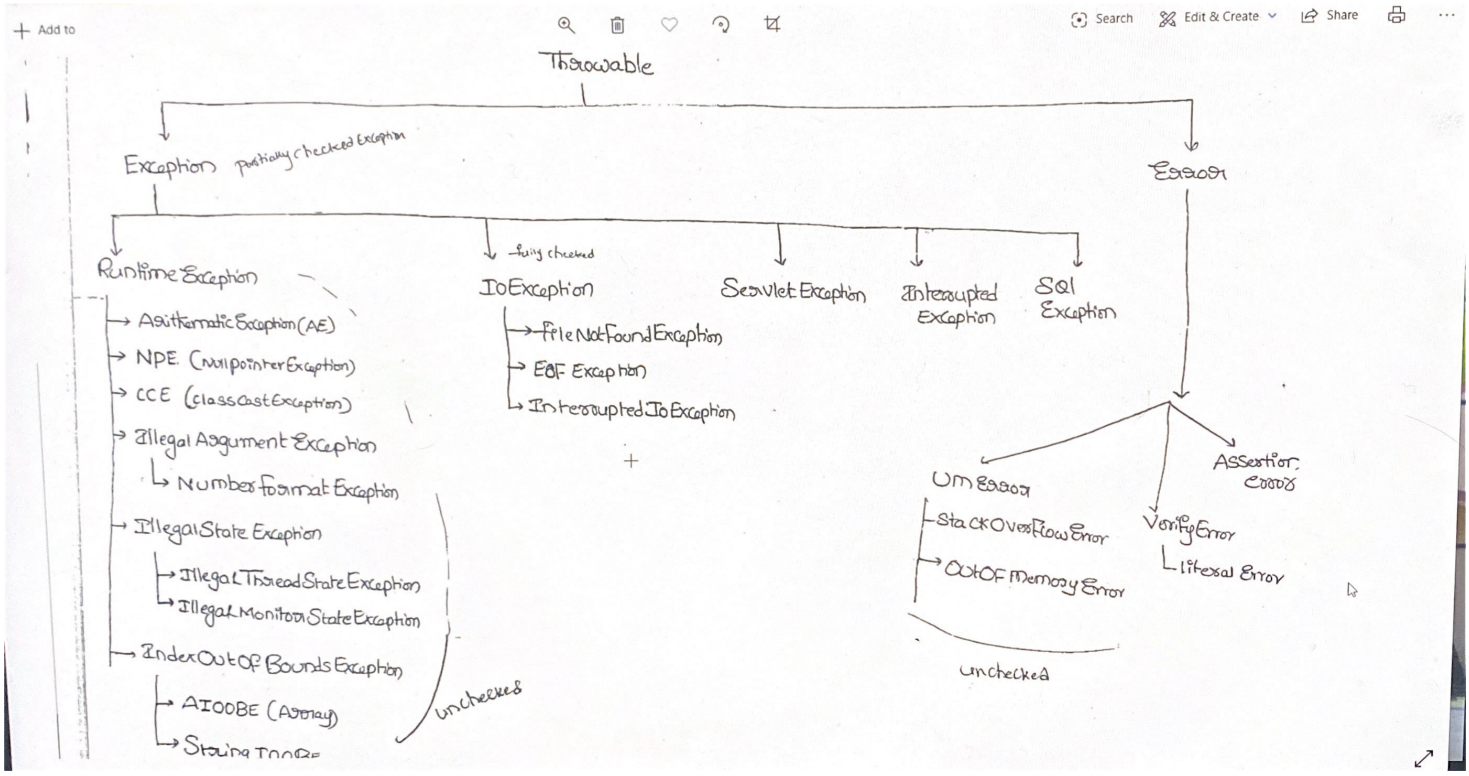
of the exception
eg:
jdbc:
Connection con;
con.close();

-> finally can be written with catch only.

-> throw is the keyword used to generate the user defined exception
-> throw Handled only checked exception

-> to handle unchecked exception we have to use try catch

-> to handle checked exceptions we can use throws and try, catch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ArithmaticException (AE)
NPE (NullPointerException)
CCE (classcastException)
IllegalArgumentException
NumberFormatException
IllegalStateException
IllegalThreadStateException
IllegalMonitorStateException
IndexOutOfBoundsException
AIOOBE (Array)
FileNotFoundException
EOF Exception
InterruptedIOException
unchecked
VmError
StackOverflowError
OutOfMemoryError
VerifyError
LinkageError
AssertionError
unchecked