1. **what is difference between exception and error ?**

* **Error**
* It cannot be handled through code.
* It is an unchecked type.
* **Exception**
* It can be handled through code.
* It can be classified into checked and unchecked type.

1. **how can we handle exceptions in java?**

**🡪** Using try catch we can handle the exceptions in java.

**Try {**

**} catch (Exception e) {**

1. **what is throw and throws?**

**🡪** The throws keyword is used to declare which exceptions can be thrown from a method, while the throw keyword is used to explicitly throw an exception within a method or block of code.

1. **why do we need exception handling?**

**🡪** it helps maintain the normal, desired flow of the program even when unexpected events occur

1. **what is exception hierarchy?**

**🡪**

|  |
| --- |
| object |

|  |
| --- |
| Throwable |

|  |
| --- |
| **Error** |

|  |
| --- |
| Exception |

|  |
| --- |
| Virtual machine error |

|  |
| --- |
| Checked exception  Example: IO or compile exception |

|  |
| --- |
| Assertion error, Etc., |

|  |
| --- |
| Unchecked exception  Example: Runtime or Null pointer exception |

1. **how can we create user defined runtime and compile time exceptions?**

**🡪 Runtime Exception :-** We can create the custom unchecked exception by extending the RuntimeException in Java. Unchecked exceptions inherit from the Error class or the RuntimeException class.

* **Compiletime Exception :-**
* we can create compile time exception by extending Exception class
* The Custom exception (InvalidUserException) class has a constructor that takes a string error message as a parameter and in turn calls the parent class constructor using the super keyword

1. **what is try with resources?**

**🡪**  Try statement that declares one or more resources

1. **can we have try, try and finally without catch block?**

**🡪** Yes, we can have try without catch block by using finally block.

1. **explain the chart and explain the throwable error exception relation?**

**🡪** The Throwable class is the superclass of all errors and exceptions in the Java language.

Only objects that are instances of this class or one of its subclasses are thrown by the Java Virtual Machine or can be thrown by the Java throw statement.

**10.what is getMessage and printstacktrace?**

🡪 The getMessage() is used to return a detailed message of the Throwable object which can also be null. One can use this method to get the detail message of exception as a string value

🡪 The printStackTrace() is a tool used to handle exceptions and errors. It is a method of Java's throwable class which prints the throwable along with other details like the line number and class name where the exception occurred.

**11.how to write proper exception handling in java?**

**🡪** The try-catch is the simplest method of handling exceptions. Put the code you want to run in the try block, and any exceptions that the code throws are caught by one or more catch blocks. This method will catch any type of Java exceptions that get thrown. This is the simplest mechanism for handling exceptions