1. What is exception and error in java?

* In java We might get some exception at run time, to get the exception at run time there could be n number of reason, but what happen basically when get exception at run time, it will stop normal flow of functionality an application, it will break down the normal flow of any program that will be not executed of application when there will be exception, Basically in java two types of exception:
* checked exceptions
* checked exception are checked at compile-time
* the exception which we can catch or handle at compile time
* IOException, SQLException etc.
* unchecked exception
* unchecked exception we can’t catch at compile time, unchecked exception catch at run time
* ArithmeticException, NullPointerException, ArrayIndexOutOfBoundsException, etc
* error
* Error is something which is we don’t have control over it,
* like OutOfMemory, VirtualMachineError, AssertionError, etc that we can’t handle it
* the point is we can handle checked and unchecked but we can’t error handling

1. How can handle the exception in Java?

* In java all the exception like IO,SQL, Arithmetic, NULL Pointer, Number Format all the exceptions are classes, so what happen internally for unchecked classes will extends run time exception and run time exception will extends exception, on other hand checked exception mean compile-time exception classes will extends directly exception
* So internally all the classes super class is exception and this exception is basically extends to throw able and that throw able extends to object, we know object in java is a super class of all the classes

1. When arithmetic exception will occur in Java?

* Arithmetic exceptions come when we will try to divide any number with zero, then your method will get arithmetic exception

1. When null pointer exception will occur in java?

* Let say I have a class or variable which is not initialized or object which is not initialized, and I am trying to perform some action on that variable, when not initialized any value of that variable it will assign by default a null, that’s the reason when we will perform any method without initialized instance value then we will get run time null pointer exception.

1. When Stack over Flow exception will occur in java?

* In java has some limitation, so when we will create a object that object will allocate some space in memory and also that memory has limitation we can’t store infinite data size, let say I created an array that array will take some space into memory and used while loop that will store infinite number into memory, so what will happen we know that memory has limitation, so memory can’t store over data, that’s the reason when we run the program compiler get stack over flow exceptions. We will get a message out of memory

1. When number format exception will occur in java?

* Whenever we are trying to parse any number, an example like I have a string variable and I trying to parse it into integer that time I will get an run time number format exception, because my parse to able variable is string but I am trying to parse it into integer,

1. When file not found exception will occur in java?

* When a file not found exception comes, let say I am trying to read a excel file, for that I have to create a file reader object, also I have to supply file directory, but if I will provide a wrong directory or empty directory, then I will get a run time file not found exception

1. When class not found exception will occur in java?

* It will happen when we will try to get register with the class, generally it will happen case of JDBC, let say an example registered class and method name is forName, that class and forName method are looking for a class, it could be jar file, and library, that mean class is a class and method who will perform some action whatever we are passing as a argument as a class name, let say I passing a class but that class not found by method because I passed a dummy class, then I will get an class not found exception

1. When illegal arguments exception will occur in java?

* Let say I have method and that method takes an argument which is not compatible with the method arguments, then run time will get illegal arguments exception

1. When array index out of bound will occur in java?

* It will happen basically case of array index size, let say I have a array which size is declared five but I am trying to get a array which size is more than declared array, in that case I will get run time array index of bound exception

1. When out of memory exception will occur in java?

* Let say I created a array object as data type long and I provided large size which is can’t take by long, that time I will get run time array out of memory

1. When class cast exception will occur in java?

* This type of exception will occur basically in case of inheritance, let say I have a parent class which is inherited by child class and I created a object for parent class but I am trying to casting child class through the parent class object, that time class cast exception will be occur.

1. When Illegal state exception will occur in java?

* Let say a variable test1 and I have a class scanner and I created a object for scanner class, now If I print that variable using scanner object and nextline method that time test1 value will be printed and if I close the scanner object, then run time illegal state exception will occur, because I already close that object but again I am trying to get that test1

1. What is try catch block in java?

* Try catch block basically used to handle any run time exception which is might be occur for checked exception or unchecked exception, and also whenever we will write a try block statement that try block statement will have a catch block, without catch block we will get a compiler error, so try block statement should be associate with catch block
* In java support multiple catch block in a single try block
* We cannot use multiple catch block in a single try block, when we will declare exception in top of the catch block. But we can use super class exception after sub class exception
* In case of checked exception we will get compiler error, that time it will show throw exception need to require, otherwise we cannot run piece of code, but if we write exception super class in that case that error will be solved

1. Is possible to multiple try catch inside a single try catch and what is the benefit?

* Yes, but in this case only inner class try catch statement will be executed and it will never go external try catch statement if it is super class exception, but if we use sub class exception then external try catch block statement will be executed
* Multiple try catch give us to code flexibility in our application
* If I give you an example Suppose I have ten more try catch with 100 lines of code and I do not want to execute all the try and catch block, let say I want to execute second try catch block, so it is possible to execute specific block, this is the one of the benefit of multiple or nested try block catch

1. When we use finally block statement in java?

* Finally block will execute always very important piece of code in java programming language , also the code which you always want to execute no matter there is exception, generally when we want to stop JDBC connection , so finally will execute some important piece of code whatever are exception or error in block
* We can write finally block without catch block

1. When throws keyword used to usually in java?

* In java throw keyword is used to explicitly throw an exception
* We can throw either checked or unchecked exception in java
* The throw keyword used to throw custom exception
* In java throws keyword used to declare an exception