

ASSIGNMENT-13

1) what is exception?

*An exception is an event, which occurs during the execution of a program, that disrupts the normal flow of the program's instructions.

*When an error occurs within a method, the method creates an object and hands it off to the runtime system.

2) what is exception handling?

*Exception Handling in Java is one of the effective means to handle the runtime errors so that the regular flow of the application can be preserved.

Java Exception

*Handling is a mechanism to handle runtime errors such as ClassNotFoundException, IOException, SQLException, RemoteException, etc.

3) Exception Hierarchy?

*The class at the top of the exception class hierarchy is the throwable class, which is a direct subclass of the Object class. Throwable has two direct subclasses - Exception and Error.

4) What is checked exceptions and how will you handle it?

*A checked exception is caught at compile time whereas a runtime or unchecked exception is, as it states, at runtime. A checked exception must be handled either by re-throwing or with a try catch block.

5) what is unchecked exceptions and how will you handle it?

*An unchecked exception (also known as a runtime exception) in Java is something that has gone wrong with the program and is unrecoverable.

*Just because this is not a compile time exception, meaning you do not need to handle it, that does not mean you don't need to be concerned about it.

*Must be handled in a try-and-catch block, or be thrown by the invoking method.

6) types of handling checked exceptions?

SQLException, IOException, InvocationTargetException, and ClassNotFoundException.

7) Why do we need the finally block?

The finally block always executes when the try block exits. This ensures that the finally block is executed even if an unexpected exception

8) Is multiple catch blocks allowed?

Yes, we can define one try block with multiple catch blocks in Java.

9) What is the output of below program

```
try{
int num=14/0;
}catch(Exception ex)
{
Sop("base exception");
}catch(ArithmeticException e){sop("child exception")}
```

Ans:

Exception in thread "main" java.lang.Error: Unresolved compilation problem:
Unreachable catch block for ArithmeticException. It is already handled
by the catch block for Exception

10) What is try with resources?

*The try-with-resources statement is a try statement that declares one or more resources. A resource is an object that must be closed after the program is finished with it.

*The try-with-resources statement ensures that each resource is closed at the end of the statement.

11) Difference between the closeable and autocloseable?

*Closeable extends AutoCloseable and Closeable is mainly directed to IO streams.

*Closeable extends IOException whereas AutoCloseable extends Exception.

*Closeable interface is idempotent (calling close() method more than once does not have any side effects) whereas AutoCloseable does not provide this feature.

*AutoCloseable was specially introduced to work with try-with-resources statements.

12) which method is present in closeable?

close()

Closes this stream and releases any system resources associated with it.

13) Name few classes implementing the closeable?

- *AbstractSelectableChannel
- *AbstractSelector
- *BufferedReader
- *BufferedWriter
- *BufferedInputStream
- *BufferedOutputStream
- *CheckedInputStream
- *CheckedOutputStream

14) Types of filehandling classes?

- *canRead()
- *createNewFile()
- *canWrite()
- *exists()
- *delete()
- *getName()
- *getAbsolutePath()
- *length()
- *list()
- *mkdir()

16) What is the return type of read method() in FileReader class?

This method is used to read and return a single character, in the form of an integer value that contains the char value of the character read.

17) Name the exceptions come across while working with filehandling?

- *ClassNotFoundException.
- *IOException
- *NullPointerException
- *ArrayIndexOutOfBoundsException
- *IllegalArgumentException
- *ArithmeticException

18) FileReader constructor throws which exception?

- *FileNotFoundException

19) read() method and close() method throws which exception?

* IOException.

20) Name few unchecked exceptions and checked exceptions?

*Unchecked exceptions:

ArithmeticException, ClassCastException, NullPointerException,
IllegalArgumentException

*Checked exceptions:

IOException, SQLException,
ClassNotFoundException, InterruptedException, FileNotFoundException