DAY – 4

# JAVA:

****STRINGS:****

* In Java, Strings are sequences of characters, stored as objects of the class.
* Strings are immutable; they can’t be changed after creation.
* String str=” hi”; // stored in string pool, reuses existing string.
* String str=new String (“HI”); // stored in Heap memory & creates a new object in heap memory.

Why Strings are Immutable:

For security, performance, and thread safety reasons. It prevents unwanted changes and helps optimize memory usage.

String methods:

int length(), Char charAt(), subString(), concat(), indexOf(), lastindexOf(), equals(), equalsIgnoreCase(), trim(), toCharArray(), toUpperCase(), toLowerCase(), contains()

****STRINGBUFFER:****

It is a class in java that represents a mutable sequence of characters. It provides an alternative to the immutable string class, allowing you to modify the contents of a string without creating a new object every time.

append(), insert(), delete(), reverse(), charAt(), deleteCharAt(), replace()

StringBuffer stringBuffer = new StringBuffer(“Hello”);

Sb.replace(1,2,”Java”)

O/P => HJava

* toString() => returns a string representing the data in this sequence.
* StringBuffer does Synchronization.

****STRINGBUILDER:****

* It is a part of the java.lang package that provides a mutable sequence of characters.
* StringBuilder allows changes in place, making it memory effecient & faster for large string manipulations.
* It doesn’t guarantee Synchronization.
* It is faster than StringBuffer in most implementations.

****ESCAPE SEQUENCES:****

* Escape Sequences are special character combinations that begin with a backslash (\).
* They are used to represent special characters in strings and characters.
* \n => newline
* \t => tablespaces
* \b => backspace => delete one character before it.
* \r => carriage return => moves cursor to the beginning of the line.
* \’, \”, [\\](file:///\\)

****STRING FORMATTING:****

* It is used to format and structure output.
* String.format()
* System.out.printf()
* Formatting numbers with padding
* Formatting Date & Time

****CONTROL STATEMENTS:****

1. Iteration control statements

* for
* for each
* while
* do-while

1. Decision making statements

* if
* if-else
* elif ladder
* else if
* switch

1. Jump control statements

* break
* continue
* return