

Day-3 Date: 29/04/2023

OOPJ Notes

Boxing and Un-Boxing Implementation

- boxing: wrapping of a primitive data into wrapper class instance (object form);

```
class Demo
{
public static void main(String[] args)
{
int a=10;
Integer a1= new Integer(a); //Boxing with constructor of Integer Class
Integer a2=a; //auto-boxing
System.out.println("Boxing of a with constructor="+a1);
System.out.println("Auto Boxing of a="+a2);
String s="12345677888990";
Integer a3=new Integer(s); //Boxing of string object/instance into Integer class object/instance
System.out.println("Boxing of string s="+a3);
}
}
```

- Unboxing: Extracting the value from the instance of wrapper class into primitive data type

```
class Demo2 {
    public static void main(String[] args)
    {
        Integer a1= new Integer(10); //Boxing with constructor of Integer Class
        int a=a1.intValue();
        System.out.println("Auto un-boxing of a1="+a);
    }
}
```

NumberFormatException

- It arises when when we pass alphanumeric value to the number family wrapper class.
- Do well defined examples on this

Command line arguments

- These are list of arguments which can be passed to .class while executing that file with JVM

```
class Demo3 {  
public static void main(String args[])  
{  
    System.out.println("Argument Passed="+args[0]);  
    System.out.println("Argument Passed="+args[1]);  
}  
}
```

Java language Features

1. Simple (Easily readable or understandable)
 2. Fast and Efficient (with the presence of JIT Compiler)
 3. Robust
 4. Portable
 5. Architecture Neutral
 6. Reliable
 7. Object-Oriented (Study about Major and Minor pillars of OOPs model)
- so on....

Demo of Classes (Scanner, Date, Calendar, LocalDate, LocalTime, LocalDateTime and SimpleDateFormat)

Class and its elements

Class

- Its a blueprint.

```

class Student
{
    int RollNo;        //Intance variable-1 (DM of class)
    String Name;       //Intance variable-2
    String Address;    //Intance variable-3

    Student()
    {
        RollNo=1001;
        Name="Malkeet Singh";
        Address="CDCA Khrghar";
    }

    //Display function who is gonna print instace variables for the particuler instance
    void Display()
    {
        System.out.println("RollNo="+RollNo);
        System.out.println("Name="+Name);
        System.out.println("Address="+Address);
    }
    public static void main(String args[])
    {
        //s1 is the reference variable of the class student to whom an instance of class is assigned
        Student s1=new Student(); //User defined default constructor
        Student s2=new Student();
        s2.RollNo=1002;
        s2.Name="ABC";
        s2.Address="Mumbai";
        s1.Name="Sandeep";

        s1.Display();
        s2.Display();
    }
}

```

Kindly do the study on:

1. class
2. field
3. method (class level or Instance Level)
4. reference
5. Instance
6. instance initializer block
7. Constructor (Default and user-defined default constructor)