OOPJ Notes Day-2

Agenda

main method

- Main method is entry point for the execution.
- it is public by nature.
- it is always static.
- its return type is always
- Reference: https://docs.oracle.com/javase/tutorial/getStarted/application/index.html (https://docs.oracle.com/javase/tutorial/getStarted/application/index.html)

meaning of "System.out.println“

- System is class
- out is instance/ref.
- println is function of stream class.

print, println and printf

- print function return the cursor on the same line.
- println is function who return the cursor on the next line
- printf is function which is used to give oitput in formatted manner.

```
class A
{


}
class Program
{
    public static void main(String args[])
    {
        System.out.print("Hello World");
        System.out.println("Hello World-2");


    }
}
```

Java Comments

- Single line comments: It is enetered using //

```
/**  //Documentation Comments
 * author: Malkeet Singh
 */

// This is my Demo Class  (Single line comments)
class Demo
{

    /* (Block comments)
     * It is my main method
     * It is public
     *
     *
     */
public static void main (String args[])
{
System.out.println("Hello Comments");
}

}
```

- Reference: https://www.oracle.com/java/technologies/javase/codeconventions-comments.html (https://www.oracle.com/java/technologies/javase/codeconventions-comments.html)

Modifiers in Java

- These are some special keywords which are used to define/decalre a state of the elememt.
- Access Modifiers:

1. public
2. protected
3. default
4. private
5. synchronized
6. transiant

- Reference: https://docs.oracle.com/javase/8/docs/api/java/lang/reflect/Modifier.html (https://docs.oracle.com/javase/8/docs/api/java/lang/reflect/Modifier.html)

6. Data Types
    1. Primitive
        1. int
        2. float

3. double
4. long
5. byte
6. short
7. char
8. boolean

2. Non Primitive types
    1. Array
    2. class
    3. ENUM
    4. Interface

- Reference: https://docs.oracle.com/javase/tutorial/java/nutsandbolts/datatypes.html (https://docs.oracle.com/javase/tutorial/java/nutsandbolts/datatypes.html)

wrapper class

- Integer
- Float
- Boolean

Initialization and Assignment

```
class Demo
{
public static void main (String args[])
{

    int a;  //Local varibel declaration
    a=10; // local variable initilization
    int b=20;
    System.out.println(a);
}
}
```

Narrowing & Widening

Widening

```
class Demo
{
    //Concept of Implicit Convertion
public static void main (String args[])
{

    byte b=10;  //Binary Value of 00001010
    short s=b;  // Binary 00000000 00001010
    System.out.println(s);
}
}
```

Narrowing

```
class Demo
{
    //Concept of Explicit Convertion
public static void main (String args[])
{
    int a=159; //00000000 00000000 000001010 00000110
    byte b=(byte)a;  //0000000
    //short s=b;  // Binary 00000000 00001010
    System.out.println(b);
}
}
```

Boxing & Un-boxing

NumberFormatException

- Reference: https://docs.oracle.com/javase/8/docs/api/java/lang/NumberFormatException.html (https://docs.oracle.com/javase/8/docs/api/java/lang/NumberFormatException.html)

Command line arguments

Java language Features,

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

Class and its elements