**Assignment 6:**

**Given example for Marker and functional interface.**

**Source Code:** *(Black colour in background is due to dark mode of IDE)*

*Marker Interface:*

import java.lang.Cloneable;

class A implements Cloneable {

    int i;

    String s;

    public A(int i, String s) {

        this.i = i;

        this.s = s;

    }

    // Overriding clone() method by simply calling Object class clone() method.

    @Override

    protected Object clone() throws CloneNotSupportedException {

        return super.clone();

    }

}

public class MarkerInterface {

    public static void main(String[] args) throws CloneNotSupportedException {

        A a = new A(20, "Akshit");

        // cloning 'a' and holding new cloned object reference in obj

        // down-casting as clone() return type is Object

        A obj = (A) a.clone();

        System.out.println(obj.i);

        System.out.println(obj.s);

    }

}

**Output:**

20

Akshit

*Functional Interface:*

@FunctionalInterface

interface Square {

    int calculate(int x);

}

public class InterfaceFunctional {

    public static void main(String args[])

    {

        int a = 5;

        Square s = (int x) -> x \* x;

        // parameter passed and return type must be same as defined in the prototype

        int ans = s.calculate(a);

        System.out.println(ans);

    }

}

**Output:**

25