DAY-36

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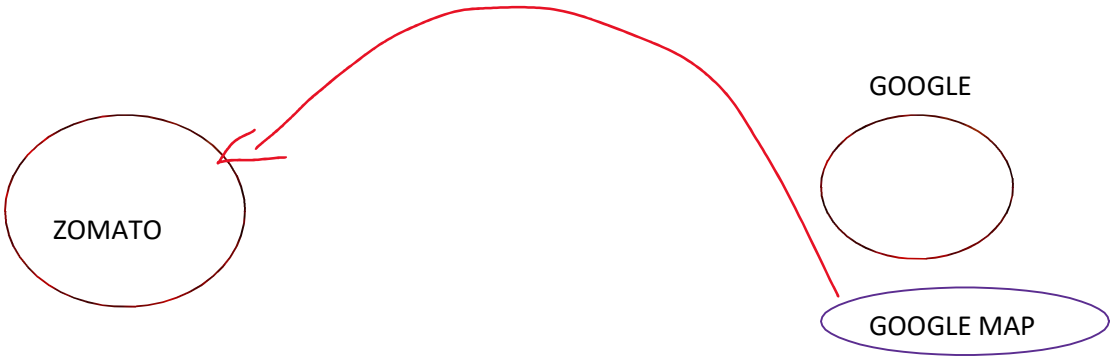
DATA HIDING



WHAT IS DATA HIDING ?

- DATA HIDING IS THE PROCESS OF HIDING DATA MEMBERS OF CLASS FROM ACCESSING FROM ANOTHER CLASS
- WE CAN HIDE DATA MEMBERS BY USING PRIVATE ACCESS MODIFIER
- WHICHEVER PROGRAMMING LANGUAGE OOPS CONCEPTS THERE PRIMARY FOCUS WILL BE HIDING DATA MEMBERS NOT MEMBER FUNCTIONS i.e, IT WILL ALLOW USER TO ACCESS MEMBERS CLASS DIRECTLY.
- IF AT ALL THESE PRIVATE DATA MEMEBRS ARE TO BE ACCESSED IN DIFFERENT CLASS, THEN WE CAN ACCESS THEM VIA PUBLIC METHODS.

JAVA-BEAN CLASS

- USING JAVA BEAN CLASS, WE CAN ACCESS PRIVATE MEMBERS OF ONE CLASS IN ANOTHER CLASS USING PUBLIC HELPER METHODS (GETTERS AND SETTERS)
- GETTER METHODS ARE USED TO GET THE VALUE OF PRIVATE MEMBERS
- SETTER METHODS ARE USED TO SET/INTIALIZE THE PRIVATE MEMBERS
- A JAVA-BEAN WILL CONTAIN PRIVATE DATA MEMBERS AND PUBLIC GETTERS AND SETTERS
- WE USE JAVA-BEAN CLASS BECAUSE, IN JAVA DATA MEMBERS ARE DECLARED PRIVATE TO ACHIEVE DATA HIDING AND PUBLIC HEPER METHODS ARE PROVIDED.

```
package demo;

public class DataHiding1
{
	private double x = 1.1;
```

```
	private static double y = 2.1;
	private int a;

	public double getx()
	{
		return x;
	}

	public double gety()
	{
		return y;
	}

	public int geta()
	{
		return a;
	}

	public void seta(int a)
	{
		this.a = a;
	}

	public void setx(double x)
	{
		this.x =x;
	}

	public void sety(double y)
	{
		this.y = y;
	}

}


package demo;

public interface DataHiding2
{
	public static void main(String[] args)
	{
		DataHiding1 a1 = new DataHiding1();
		/*System.out.println(a1.a);
		System.out.println(a1.x);
		System.out.println(DataHiding1.y);*/

		System.out.println(a1.geta());
		System.out.println(a1.getx());
		System.out.println(a1.gety());

		a1.seta(23);
		a1.setx(12.3);
```

```
        a1.sety(100);

        System.out.println(a1.geta());
        System.out.println(a1.getx());
        System.out.println(a1.gety());


    }

}
```

ENCAPSULATATION

- BINDING OF RELATED DATA TOGETHER IS CALLED ENCAPSULATION
- BINDING OF STATE AND BEHAVIOUR

EXAMPLE :

- A CLASS IS ENCAPSULATION OF DATA MEMBERS AND MEMBER FUNCTIONS
- A PACKAGE IS AN ENCAPSULATION OF CLASS AND INTERFACES