**Day-1 Java Assignment**

**1. Problem Description:**

What is the difference between equals() and == in Java?

Tell the output of the given code.

public class Dog {}

public class Test {

public static void main(String[] args) {

int n1 = 10;

int n2 = 10;

System.out.println(n1 == n2);

boolean b1 = true;

boolean b2 = false;

System.out.println(b1 == b2);

Dog dog1 = new Dog();

Dog dog2 = new Dog();

System.out.println(dog1 == dog2);

System.out.println(dog1.equals(dog2));

String s1 = "Hello! World!";

String s2 = "Hello! World!";

String s3 = new String("Hello! World!");

System.out.println(s1 == s2);

System.out.println(s1 == s3);

System.out.println(s1.equals(s2));

System.out.println(s1.equals(s3));

}

}

**2. My Solution:**

* equals() is a method and == is an operator in Java and both are used to compare strings.
* The equals() method compares the actual contents of two objects..
* The == Operator compares the object references to see if they refer to the same object in memory.

**Answers to given code:**

public class Dog {}

public class Test {

public static void main(String[] args) {

int n1 = 10;

int n2 = 10;

System.out.println(n1 == n2); //True “==” operator check only values for primitive data type compares

boolean b1 = true;

boolean b2 = false;

System.out.println(b1 == b2); //False

Dog dog1 = new Dog();

Dog dog2 = new Dog();

System.out.println(dog1 == dog2); //False

System.out.println(dog1.equals(dog2)); //False

String s1 = "Hello! World!";

String s2 = "Hello! World!";

String s3 = new String("Hello! World!");

System.out.println(s1 == s2); //True, as there is both String literals values are same and there is no new keyword, so compiler refer to this as same object

System.out.println(s1 == s3); //False, s3 is creating a new String object using new keyword, so memory location would be separate.

System.out.println(s1.equals(s2)); //True

System.out.println(s1.equals(s3)); //True

}

}