**Day 29\_Java Assignment**

**1. Problem Description:**

Difference between value types and reference types in Java?

**2. My Solution:**

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| --- | --- |
| **Value Types** | **Reference Types** |
| Actual value of a Variable is stored directly in memory. | Reference (memory address) to object is stored in memory. |
| Examples: int, double, boolean, char, etc. | Examples: Objects, arrays, instances of classes, etc. |
| Stored on the stack. | Stored on the heap. |
| Actual value is passed. | Reference (memory address) is passed. |
| Managed by the JVM. | Managed by the garbage collector. |
| Variable Copying: Creates a separate copy with its own value. | Variable Copying: Creates a copy of the reference, both point to the same object. |

**Example:**

**package** daily\_assesment;

**public** **class** Val\_Ref {

**public** **static** **void** main(String[] args) {

// Value type: int

**int** x = 10;

**int** y = x; // y gets the value of x

x = 20; // Modify the value of x

System.***out***.println("x: " + x);

System.***out***.println("y: " + y);

// Reference type String

String str1 = "Hello";

String str2 = str1; // str2 references the same object as str1

str1 = "Hi"; // Modify the value of str1

System.***out***.println("str1: " + str1);

System.***out***.println("str2: " + str2);

}

}

**Output:**

x: 20

y: 10

str1: Hi

str2: Hello