Assignment 1

Research about Value types and reference types.
 Compare Value types and reference types.
 Explain and Give example

Answer

a. Value Types (Primitive Types) Stored in stack memory. They represent simple data types and include integers, floating-point numbers, characters, booleans, and more.
 Reference Types (Any else not primitive) variable holds a reference (memory address) to the actual object. Reference types include classes, arrays, interfaces, enums, and objects.
 Reference types are stored on Heap.

There are many differences between the two, but the most noticeable is Variables of reference types store references to their data (objects), while variables of value types directly contain their data. With reference types, two variables can reference the same object; therefore, operations on one variable can affect the object referenced by the other variable.

Example

Value type

```
Projects × Services Files

■ ValueType.java ×

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🖨 b job
                                            public class ValueType {
  Source rackages

default package>

MolueType.java
                                         П
                                                public static void main(String[] args) {
                                                    int a = 10;
    ⊞ ⊞ job
                                                    a = 20;
  System.out.println("a: " + a); // Output: 20
 ⊞- 🦫 Test Libraries
- 🐉 Matrix
                                                     System.out.println("b: " + b); // Output: 10
  🗓 🚹 Source Packages
                                      10
  i Libraries
Output - job (run)
    BUILD SUCCESSFUL (total time: 0 seconds)
```

Reference type

```
Projects × Services
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                                          public class reference {

☐ ☐ ☐ Source Packages

                                             int angka;
    = <default package>
       ValueType.java
                                     3
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                                              public reference(int angka) {
        reference.java
                                                  this.angka = angka;
    ⊞ job
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  🗓 🚡 Test Packages
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  i Libraries
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                                              public static void main(String[] args) {
  🗓 🔓 Test Libraries
                                     9
                                                  reference ref1 = new reference(5);
🗎 🐌 Matrix
  E Source Packages
Output - job (run)
    refl.angka: 10
    ref2.angka: 10
BUILD SUCCESSFUL (total time: 0 seconds)
8
```