Java Review Questions (1-5, 11)

1. Identifier Names
a) For legal identifiers:
Studentname,
myNumber2,
Age,
Score

b) Four illegal identifiers and why:

2score - Cannot start with a number
My number - spaces are not allowed
Class - reserved keyword in java
#value - special characters like # are not allowed

2. Declaring Variables

a) Two statements:
Int numBeads;
Numbeads = 5;

b) One statement:
Int numbeads = 5;

3. Tracing Code

  a) Final value of yourNumber = 13
  b) Final value of yourNumber = 11

4. Data Types

a) Int
b) Double
c) Int
d) Double
e) Boolean
f) Char

5. Data Types vs. Classes

a) Difference between a primitive data type and an abstract data type:

• Primitive data type: Built-in, stores simple values (e.g., int, double, char, boolean).

• Abstract data type: User-defined or complex data structures (e.g., String, arrays, classes).

b) Difference between a class and an object:

• Class: A blueprint/template that defines fields and methods.

• Object: An actual instance created from a class.

11. Type Casting

Given:

int i = 5;

double k = 1.6;

double j;

a) y = j * k;

• j * k - int * double - automatically promoted to double.

• No casting needed.

y = j * k;

b) z = j * k;

• j is already double, k is double.

• No casting needed.

z = j * k;