Homework 2

Q1) (A)

Code does not compiles because of invalid syntax. '**double num1, int num2 = 0**' syntax is not a valid syntax. '**int num2 = 0**' should be on another line itself (more precisely it should be another statement, we can use semicolon instead of comma but it counts as separate statements.) or the '**int'** keyword must be deleted, meaning **num2** is going to be an **double** too.

Q2) (D)

Code does not compile because we are trying to reference an uninitialized variable. Unlike class and instance variables, local variables are not initialized to a default value. The compiler checks to make sure that you have assigned a value before you use a local variable.If these variables were not local, it would have print '**nullmetal**' since default initialization value for String reference type is **null**.

Q3) (B)

The variables in Java can be categorized into two types: primitive variables and reference variables. Reference variables are also known as *object reference variables* or *object references*.

Local variables don't have default values, so local variables should be declared and an initial value should be assigned before the first use.

Instance variables have default values. For numbers, the default value is **0**, for booleans it is **false**, and for object references it is **null**. Since the String type is an reference type, it defaults to **null.**

Q4) (B)

Identifiers are names of packages, classes, interfaces, methods, and variables. Properties of valid identifiers are as follows:

- Can have unlimited length
- Can start with a letter (lower or uppercase), a currency sign, or an underscore
- Can use a digit (not at the starting position, **2blue** in the question is not a valid variable name.)
- Can use an underscore at any position
- Can use a currency sign at any position

For addition, There can not be a variable with the same name as Java keywords or reserved words. As these names suggests, they're reserved for specific purposes.

Q5) (B)

Java uses CamelCase as a practice for writing names of methods, variables, classes, packages and constants. Class names should be nouns, in mixed case with the first letter of each internal word capitalised. Interfaces name should also be capitalised just like class names.(FooBar)

- Methods should be verbs, in mixed case with the first letter lowercase and with the first letter of each internal word capitalised.(getData, applyChanges etc.)

- Variable names should be short yet meaningful. Should not start with underscore or dollar sign characters. Should be mnemonic, designed to indicate to the observer the intent of its use. One-character variable names should be avoided except for temporary variables.(fooBar)

- Constant variables should be all uppercase with words separated by underscores. There are various constants used in predefined classes like Float, Long, String. (FOO_BAR)