1.1 What is the purpose of the main method?

Answer: The program will start the execution from the main method

1.2 Java is a strongly typed programming language. What does strongly typed mean here?

Answer: The program will start the execution from the main method

1.3 What if there is a syntax error in your Java code, does your program crash due to the syntax error?

Answer: The program can crash due syntax error. Not exactly the first start but after when you calling the method and you somewhere didn't put closer or something, the program will brake and it will crash.

1.4 There are 12 symbols in the Java code below.

if (x > 0) {

 y = 1;

}

What identifiers, keywords, literals, operators, and separators you can find in the code?

Answer: Identifier: x , y | Operators: > , = | Separators: ; , { , }

1.5 Write the following single-line comment: // My comment

a) as a multi-line comment

Answer: /* My comment */

b) as a Javadoc comment

Answer: /** My comment */

1.6 What does promotion mean in Java?

Answer: Java automatically promotes each byte, short or char operant to int when evaluating an expression and if the operand is long, float, double the expression is promoted to long, float or double. Type conversion (automatic type promotion).

1.7 Explain why you can or cannot successfully assign

a) the value of 1_999_999_999 to a variable of type int?

Answer: It can be assigned to int variable, _ can be used to improve readability

b) the value of 2_999_999_999 to a variable of type int?

Answer: It can be assigned to int variable, _ can be used to improve readability.

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SWD4TF032-3004
Programming 1
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Week 1 Assignment
2 (3)

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c) the value of 2_999_999_999 to a variable of type double?

Answer: You cannot assigned it to double varaible, because we need decimal number if we use double.

d) "1" to a variable of type int?

Answer: No, because "1" a String, not an int.

e) 'A' to a variable of type String?

Answer: 'A' is a char, not a String.

f) "A" to a variable of type char?

Answer: "A" is a String, not a char.

g) "A" to a variable of type String?

Answer: Yes, you can because "A" is a String,.

1.8 What is wrong in the code below? Give arguments!

final int x = 100;

x++;

Answer: x is declared to final variable, so you cannot rewrite it with x++;

1.9 What is wrong in the code below? Give arguments!

for (int i = 1; i <= 5; i++) {

 System.out.println(i);

}

System.out.println(i);

Answer: The program will crash out, because the second println don't know what is the i. If you just delete the second println the code will working well, and it will print out the numbers from 1-5.

1.10 What does the code below print? You can run the code in Eclipse to see the results.

NB! The objective is to understand why Java gives certain results. Therefore, give arguments!

System.out.println(4 * 2 / 4); // a)

Answer: 4*2 = 8 / 4 = 2 // The result will be 2, and it is because of the math sematic.

System.out.println(2 / 4 * 4); // b)

Answer: The result is 0, because 4*4 = 16, and 2/16 is 0.125 but the return value came back in an integer so our result will be 0.

System.out.println(2.0 / 4 * 4); // c)

Answer: The result will be 2.0, because of the Type converstaion the double value will be printed out.

System.out.println((int)0.99); // d)

Answer: Explicit type casting from double to int so the return value will be 0.

System.out.println(3 * 1.1); // e)

Answer: 3 * 1.1 it will be 3.3 and the return value will be double.

System.out.println(1 < 2); // f)

Answer: True will be printed out because 1 is smaller than 2, so it's true.