FundProg17 – Assignment 1

1.1 Numbers

a) Declare two integer variables (`a` and `b`) with values 7 and 25. Print the following numbers:

  – Sum of `a` and `b`

  – Difference between `a` and `b`

  – Product of `a` and `b`

  – `b` divided by `a` (as a real number)

  – Remainder of this division

b) Do the same with two float variables (`a` and `b`) with values 0.1 and 0.2. Do you notice any difference?

1.2 Strings

You are given the following variables:

```
String name = "Fido";
String kind = "dog";
int age = 11;
double weight = 15.3;
String hobby = "digging holes";
```

Write a program that prints sentences with these variables using **string concatenation**. The output should look something like this:

```
Fido is a dog. He is 11 years old and weighs 15.3 kg. His
favorite hobby is digging holes.
```

1.3 Type conversion

Take the variables from the previous section. Try to convert each of the doubles into an integer, and the integer into a double. Print the results.

1.4   Boolean operators

You own two dogs. You know that if both wag their tails, they are guilty of causing some trouble earlier. Declare a boolean variable for each dog that indicates whether it is wagging its tail:

```
boolean dog1wags;
boolean dog2wags;
```

a) Declare a boolean variable `dogsAreGuilty`. Use a boolean operator to set this variable to `true` when they are guilty, and `false otherwise`.

b) If only one of the dogs is wagging its tail, they are both just happy. Declare a boolean variable `dogsHappy` that is true when only one of the dogs wags its tail, but not both!

1.5   Number comparison

You are given the following variables:

```
double a = 3.25;
double b = 10.5625;
int c = 17;
```

Declare the variables in a new program. Write code that prints whether

a) `c/a` is larger than `b`

b) a^2 is at least as large as `b`

c) `c - a` is equal to 13.75

c) `c / 2` is equal to 8.5