

## Exercises\_wk1

**Q1:** Define two variables ('word1' and 'word2') with respectively the following values ('Data' and 'Analytics'). Next, first use concatenation to print the following statement: "Data Analytics", and then print the same statement without using concatenation.

**Q2:** Print the following three statements: "Phew, that's a small number!", "Phew, that is a "small" number!" and "Phew, that's a "small" number!".

**Q3:** Define three variables ('num1', 'num2' and 'num3') with respectively the following values (100, 0.25, '25'). Next, print the data type of each of the three variables, and then try to convert 'num1' into a string, and 'num2' and 'num3' into integers, and print the converted values. Carefully examine what happens!

**Q4:** One by one, perform the following mathematical operations: add 5 to 10, subtract 5 from 10, multiply 10 by 5, divide 10 by 5, and raise 10 to the power of 5, and print them. Carefully examine what happens!

**Q5:** Use floored (`//` integer) division and the modulus operator (`%`) to respectively calculate the quotient and remainder of the following division: 1235 divided by 125, and print the output. Next, use the modulus operator (`%`) to extract the right-most digit from the remainder, and print it. Then do the same for the last two digits.

**Q6:** Define two variables ('num1' and 'num2') with respectively the following values ('1235' and '150'; i.e., as strings). Then define a variable ('a') by dividing 'num1' by 'num2', and print it. Next, use the `round()` function (see the note) to print variable 'a' with only two digits. Then define a variable ('b') by converting variable 'a' to an integer, and print it. Finally, define a variable ('c') by converting variable 'b' to a floating-point number, and print it. Carefully examine what happens! (Note: The syntax of the `round()` function is: `round(number, number of digits)`.)

**Q7:** Define a variable 'name' by asking the user to input his/her name, and print the data type of this variable. Then do the same for the age of the user. Carefully examine what happens!

**Q8:** Define two variables ('number' and 'exchange\_rate') with respectively the following values (100 and 1.10522). Then use concatenation to print the following statement: "Given the exchange rate of 1.10522, 100 British Pounds is currently equal to 110.522 Euros."

**Q9:** Write a program that asks the user to input a (integer) number, and then based on whether this number is smaller than 0 or not, either prints "This is a negative number." or "This is a positive number."

**Q10:** Write a program that first defines two variables ('num1' and 'num2') by asking the user to input two (integer) numbers, and then based on whether dividing the first number by the second provides a whole number or not, prints either "Dividing the first number by the second provides a whole number." or "Dividing the first number by the second does not provide a whole number."