Java module 1

Exercises Day 3

| 1.1 - While | Counting down |
| --- | --- |
| Instructions | Print the numbers counting down from 10 using a while loop |
| Expected output | 10  9  8  7  6  5  4  3  2  1  0 |

| 1.2 - While | Enter the right password |
| --- | --- |
| Instructions | The user should enter a password, and it keeps asking until they enter the correct one. The right password is “password123” |
| Expected output | Enter the password:  >>>ABC123  Incorrect password. Try again.  Enter the password:  >>>password123  Password correct! |

| 1.3 - While | Guessing a number |
| --- | --- |
| Instructions | The program will select a random number between 1 and 100. The user will be asked to guess the number until he finds the right one. Each time, the program will tell him if the number is higher or lower.  hint: to choose a random number use Math.random()  <https://www.w3schools.com/java/java_howto_random_number.asp> |
| Expected output | Guess the number (1-100):  >>>33  Too low. Try again.  Guess the number (1-100):  >>>87  To high. Try again.  Guess the number (1-100):  >>>57  Congratulations! You guessed the number! |

| 1.4 - While | Find the greatest number |
| --- | --- |
| Instructions | Write a program that reads numbers from the user until the user enters -1. The program should print the largest number entered. |
| Expected output | Enter any number:  >>> 33  Enter any number:  >>> -20  Enter any number:  >>> 57  Enter any number:  >>> -1  The greatest number was 57 |

| 2.1 - String +While | Ask for a word starting with A |
| --- | --- |
| Instructions | Ask the user to type a word starting with the letter A. Check if it’s correct, otherwise ask again until it is correct. |
| Expected output | Enter a word starting with A:  >>> Kiwi  Incorrect!  Enter a word starting with A:  >>> Apple  Correct! |

| 2.2 - Strings | Uppercase or Lowercase? |
| --- | --- |
| Instructions | Ask the user a number, and a sentence. if the number is even, output the sentence in lowercase; otherwise, output it in uppercase.  Bonus: update your code such that you don’t use toLowerCase() and toUpperCase() functions. |
| Expected output | Enter a number:  >>> 7  Enter a sentence:  >>> Java is so Cool!  JAVA IS SO COOL! |

| 3.1 - Casting | byte to short |
| --- | --- |
| Instructions | Create a byte variable with the value 100. Cast it to a short and print the value. Is it implicit or explicit casting? |

| 3.2 - Casting | long to int |
| --- | --- |
| Instructions | Create a long variable with the value 100000L. Cast it to an int and print the value. Is it implicit or explicit casting? |

| 3.3 - Casting | long to float |
| --- | --- |
| Instructions | Create a long variable with the value 100000L. Cast it to a float and print the value. Is it implicit or explicit casting? |

| 3.4 - Casting | What would the output be? |
| --- | --- |
| Instructions | short shortVal = 128;  byte byteVal = (byte) shortVal; // Explicit casting  System.out.println(byteVal);  Try it out. This conversion leads to data lost due to byte’s range of -128 to 127. |