Week 3

Using **BRef-01: Chapter 05** experiment and answer the following questions:

1. **What is string data type?**

*Strings are a sequence of characters this includes letters, digits, symbols, punctuation or white spaces.*

1. **Which Python built-in function can be used to convert a data type to string? Try some examples in Python shell.**

string()

1. **In Python (and some other programming languages), special characters can be included in a string. How one can specify these special characters in a Python program? List some of these characters and try the examples in Python shell.**

*Escape with \ (\n starts a new line, \t aligns text, \” specifies a single or double quote, \\ uses a literal backspace)*

*Combine with +*

*Duplicate with \**

*Get a character with [] (the most left is 0, the most right is -1)*

*Get a substring with a Slice (using [start :] [: end] [::] (in steps of)*

*Get Length with len()*

*Split with split() (string specific, use string.function(argument)*

*Combine by using join() (opposite of split())*

*Substitute by Using replace()*

*Strip with strip() lstrip() and rstript()*

1. **How one can concatenate multiple strings? Make one string with your: First name, Last name, student number and group number.**

*With combine +*

1. **What would be the result of multiplying a number with a string? Try three examples. What if the number is zero?**

*Kan niet*

1. **How can you extract specific character from a given string? How can you specify the first character? Last character? How can you get a slice if a string? Try with several examples in Python shell.**

*You can extract with [], the first character is [0] and last [-1]*

1. **What are the functionality of functions: len(), split(), join(), replace().** **Try two examples for each function in Python shell.**

*Get length, split, join and replace a string.*

Step 03: Looping with for… in

Using **BRef-01: Chapter 06** answer and experiment the following questions:

1. A while loop consists of a condition and a body. Pick and example from **BRef-01: Chapter 06** and specify the condition and the body of the program.
2. Using while loop implement a program that prints a message (like Hello) for 10 times.

count = 1

while count <= 10:

    print("Hello")

    count += 1

1. Using while loop implement a counter that counts down from 10 until 0. In each iteration, the program must print the value of the counter.

count = 10

while count >= 0:

    print(count)

    count -= 1

1. What is break statement?

*Breaks the loop, goes further to other lines of code*

1. Implement a program that repeatedly asks the user to enter a character as input until the user enters q. If the user enters q the program will stop.

while True:

    number = input("Enter a number [Enter Q to stop]: ")

    if number == "q":

        break

    print(number)

Using **BRef-01: Chapter 06** answer and experiment the following questions:

1. What are the main elements of a for loop?
2. Using for loop implement a program that prints a message (like Hello) for 10 times.
3. Using for loop implement a counter that counts down from 10 until 0. In each iteration, the program must print the value of the counter.
4. Can you use a break statement within a for loop? Build a simple example.
5. Implement a for loop that prints characters of a given string.
6. Implement a for loop that given a string, prints characters positioned in odd indeces, i.e. 1,3,5,7,....