In-Class Activity

- Our in-class activity #2 -> 1%
  - Write your answer to Q. ___ on the provided sheet of paper
  - Write your lastname, firstname and student number on the provided sheet of paper
  - At the end of today’s class, hand in your sheet of paper in the appropriate pile:
    - **Pile 1** -> if your lastname start with a letter that is between ‘A’ and ‘L’
      - **Pile 1** is on your left-hand side of the classroom
    - **Pile 2** -> if your lastname start with a letter that is between ‘M’ to letter ‘Z’
      - **Pile 2** is on your right-hand side of the classroom
- **IMPORTANT:** For in-class activity #2, you must write at least a partial solution to get some marks. A header common block with some comments will not be sufficient!

Course grading scheme on our course website: **Best 7 in-class exercises out of 10: 1% each, for a total of 7%**
Part 1 - Theory and Understanding

Try to answer the questions 1st without using your computer, then confirm your answer using Python IDLE shell!
1. a) What does `range(6)` produce?  

b) What does `range(3,8)` produce?  

c) What does `range(-4,9,3)` produce?  

d) What does `range(,7,2)` produce?
Part 1 - Theory and Understanding

2. a) Write a Python statement which would produce the sequence 0, 2, 4, 6

b) Write a Python statement which would produce the sequence 9, 6, 3, 0, -3
3. What is wrong with this Python code fragment?

```python
# Chatbot asks How old are you?
age = input("How old are you? ")

# If the user is old enough to drink ...
if age >= 19 :
    # Chatbot suggest an alcoholic drink.
    print("How about a beer?")
else :
    # Otherwise, a non-alcoholic drink.
    print("How about a Shirley Temple?")
```

Note the usefulness of the comments!
Part 1 - Theory and Understanding

4. a) What does the following code fragment print?

```python
for item in ["0", "1", "2"]:  
    print(item)
```

b) What does the following code fragment print?

```python
name = "Ted Lasso"
for letter in name:
    print(letter.upper())
```
Consider the following Python code fragment and answer the following 2 questions:

```python
mystery = 0
someNumbers = [9, 8, 7, 6, 5, 4, 3, 2, 1]
for digit in someNumbers:
    if digit % 2 == 0:
        mystery += digit
    print(f"digit is {digit}")
print(f"And so far, mystery is {mystery}")
print(f"Final mystery is {mystery}")
```

5. Once the Python code fragment above has executed, what is the content of the variable `mystery`?

A. 0 (zero)  
B. [2, 4, 6, 8]  
C. 5  
D. 20  
E. None of the above

6. What is the content of the variable `digit` during the 4th iteration of the for loop?

A. 0 (zero)  
B. [2, 4, 6, 8]  
C. 5  
D. 20  
E. None of the above
Consider the following Python code fragment and answer the following 2 questions located on the next slide:

```python
aNumber = 9
if condition_1:
    print("A", (aNumber % 4))
else:
    print("B")
    if condition_2:
        print("D")
        if condition_3 and not condition_4:
            aNumber = 2
        else:
            aNumber = 3
        print("E")
    elif condition_5:
        print("F")
    else:
        aNumber = 4
print("G")
print(aNumber)
```

**Questions:**
1. What will be the output if `condition_1` is `True` and `condition_2` is `True`?
2. What will be the output if `condition_3` is `True` and `condition_4` is `False`?
## Part 1 - Theory and Understanding

<table>
<thead>
<tr>
<th>Question</th>
<th>Python Code Fragment</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. What does the Python code fragment produce when all conditions are True?</td>
<td></td>
<td>A. B G 4</td>
<td>B. B D E G 3</td>
</tr>
<tr>
<td>8. What does the Python code fragment produce when all conditions are False?</td>
<td></td>
<td>A. B G 4</td>
<td>B. B D E G 3</td>
</tr>
</tbody>
</table>
Solve the following problems by writing a Python program on a piece of paper without using your computer!
Question 9

Problem Statement:
Write a **New Years Bot** that counts down from 10 to 1.

Requirements:
- It must use a `for` loop and each number should be on a new line.
- At the end of the countdown, it must output **Happy new year!**

Here is a sample output (or sample run):
Problem Statement:
Write a Milk Survey Bot that asks the user whether s/he has tried almond, coconut, cow, goat, hemp, oat, rice, and/or soy milk.

Requirement:
• Do not repeat the same code over and over!

Here is a sample run:

```
How many different types of milk have you tried?
For example, have you tried ...
... almond milk? (y/n): n
... coconut milk? (y/n): y
... cow milk? (y/n): n
... goat milk? (y/n): y
... hemp milk? (y/n): y
... oat milk? (y/n): y
... rice milk? (y/n): n
... soy milk? (y/n): y
```