CU04448 TOETS02
Intelligent Control Assignment Instruction

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1. Assignment

Create a software tool for Caesar ciphers using Python that have 3 functions:

1. Encrypt with a given key k
2. Decrypt with a given key k
3. Find the key k

We are only considering the English language. Thus, the alphabet space is 26 English letters.

2. Deliverables

1. A short report.
    a. Min 1 page A4, max 3 pages A4 (excluding appendix)
    b. Suggested structure:
        - Introduction:
            - ✓ what is the task?
            - ✓ what is Caesar cipher?
            - ✓ What are the requirements?
        - Method:
            - ✓ How did we approach this problem
            - ✓ How did we structure our code
        - Results:
            - ✓ How to use our code?
            - ✓ Is it fully functional?
            - ✓ One test case per function (put a clear screenshot)
        - Reflection:
            - ✓ What did we do good?
            - ✓ What can be improved?
            - ✓ What did we learn while working on this code?
2. Your code in appendix.

2.1 Report guideline

- Concise and straight to the point. You do not need a cover page, you do not need contents like: “The purpose of this project……” You do not need 3rd person perspective language, just say “We decided……”,”We write ……”.
- The report must be logical and easy to read, free from grammar & spelling mistakes.
- Screenshots must be clear and readable.
- I strongly suggest you to just copy and paste your code to the appendix, do not use screenshots, do not worry about the colors and general format that make your code look good, just make sure indentations are there when needed.
- Recommended format normal text: A4 paper, Arial, size 12, line space: multiple 1.25.
- Submit the report in groups, remember to include your names and student numbers on the report.

2.2 Code guideline

- It should work like what is described in the assignment.(Section 1 of this document)
- You should have necessary comments to the extent that you still can understand each line after leaving it for a week.
- You don’t necessary need an interface.
- You must be able to explain your code.

3. Assessment and grading

3.1 Report and code: 70%

Format (0.5) *Page limit, components in section 2, code in appendix, grammar*	*Remarks*	*Grade*
Report readability (0.5) *Decent writing quality, logical and concise, to the point.*	*Remarks*	*Grade*
Report contents (2) *Clearly presents your analysis and design choice, you can demonstrate your analysis and implementation.*	*Remarks*	*Grade*
Code quality (2) *Readable, with just the right amount of comments, no obvious logic loop-holes, no obvious security threats to user, meaningful variable names, re-useable.*	*Remarks*	*Grade*
Code functionality (1) *The code work with 3 necessary functionalities defined in section 1. You can demonstrate this with test cases.*	*Remarks*	*Grade*
Score *Max: 7 pts*		

3.2 Interview: 30%

I'll conduct an online interview 15-20 min per group. Main content: discuss your work and your relevant knowledge. The evaluation will be based on your individual performance and knowledge.

Justify your work (2) *You can explain and justify your work, including report contents and code.*	*Remarks*	*Grade*
Demonstrate your knowledge (1) *You should know the basic necessaries about python programming, object-oriented methods, and fine coding conducts.*	*Remarks*	*Grade*
Score *Max: 3 pts*		

3.3 Final score calculation

Score report and code + Score interview = Final score toets02

3.4 Additional explanation

Score report and code (70%) :

the score will be a group score, everyone is the same.

Score interview (30%):

this one will be individual, based on your performance in the interview.

Total score (max 10):

Direct sum of two scores above, so you have an individual final score.

4. Timelines

Report and code submission: **Thursday 30th January 23:59**

A loose deadline: *Friday 31st January morning before sunrise*.

4.1 Submission requirement

Send via email, cc your teammates.

4.2 Interview

The interview will be held on **Friday 31st January, Online.**

I will be flexible from 10 am to 10 pm, so discuss with your team when you want to have the interview.

Directly invite me to a 30 min MS Teams meeting at your intended timeslot.