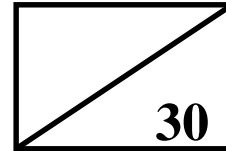


TIT3131- Information Theory

Project

Student ID:
Student Name:



INSTRUCTION Part A (10%)

1. **Part A** is an individual project.
2. Please answer the following question by scanned handwritten answer. You have the responsibility to show all the necessary steps clearly.
3. Please submit your report in pdf format by **23 April 2024** in **Microsoft Teams classroom**. Late submission will result in marks deduction.

QUESTION

Combine a text fragments of “**CRYPT**” and “**SKY**”.

Append the first **TWO** (2) consonants found in your **OWN NAME** and put it behind the text.

Construct a **Huffman tree** and **Encoding table** for this code. Next, show the steps to calculate its **efficiency**.

Example: **T**_{EO} **C**_{HUAN CHIN}

↓ ↓

C	R	Y	P	T	S	K	Y	T	C
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INSTRUCTION Part B (20%)

1. **Part B** is a Group project (Maximum 4 students are allowed).
2. Please use **Python programing** to demonstrate the following question. You have the responsible to include the remarks for all the necessary library clearly if it is involving with Python interface application.
3. Please submit your source code by **18 June 2024** in **Team classroom**. Late submission will result in marks deduction.
4. **STRICLY** No copy, else one **MAXIMUM** marks of **One** of the selected group will be chosen and divided among other groups.

QUESTION

Please select one of your group member's name as an input. Next, write a program to verify the result in Part A using **Python programing**. Your system should be able to receive an input of user's name and construct the **Encoding Table** using **Huffman Encoding Technique**. Please refer to the following marking rubrics.

- a. 16 - 20 marks will be allocated to those groups that deliver interactive user interface design and working system that comply to the techniques that we have learnt in class.
- b. 8 - 15 marks will be allocated to those groups that deliver a working system as console application that comply with the techniques that we have learnt in class.
- c. 0 - 7 marks will be allocated to those groups that deliver a failure or partial failure system.