

# Compulsory Task 1

**a. A model that allocates which mail folder an email should be sent to (work, friends, promotions, important), like Gmail's inbox tabs.**

- Category: Supervised Text Classification

- Explanation: this model is designed to automatically allocate incoming emails into pre-defined folders such as work, friends, promotions, or important. It is trained on labelled examples (emails with known folder assignments) and uses features from the email content to determine the correct category.

**b. A model that helps decide what grade to award to an essay question. This can be used by a university professor who grades a lot of classes or essay competitions.**

- Category: Supervised Learning (Regression/Ordinal Classification)

- Explanation: in this use-case, the model assigns a grade to an essay question by learning from previously graded essays. The grading can be approached as a regression problem (predicting a continuous score) or as an ordinal classification problem (predicting discrete grade categories). The model relies on a training dataset with essays and their corresponding scores/grades, making it a supervised learning task.

**c. A model that provides assistive technology for doctors to provide their diagnosis. Remember, doctors ask questions, so the model will use the patients' answers to provide probable diagnoses for the doctor to weigh and make decisions on.**

- Category: Supervised Learning (Question Answering / Decision Support)

- Explanation: this model assists doctors by processing the patients' answers to specific questions and providing probable diagnoses. Although it generates suggestions rather than a final diagnosis, it functions as a decision support tool. The model is typically built using supervised learning techniques and may incorporate elements of question answering or ranking to output the most likely diagnoses based on the input data.