Problem

- Standard QA models outperform humans but suffer at few-shot QA tasks.
- Models tend to overfit to training dataset.
- Labeled data is not abundant and expensive.
- No or very few labeled data in some domains.
- Need a better QA model to tackle this few shot learning task.

Background

- Key idea is to learn Domain Invariant features.
- Approaches: GAN, Meta learning, TAPT
- Recent work also explored clever MLM objectives, bi-encoder model, encoder-decoder models to learn better contextualized representation of QA task.

Methods

- Pre-train QA model with a new special [QUESTION] token. Key idea is to do a better job learning QA task specific features using a new task specific token.
- Use reptile [1] ML algorithm to find an ideal initialization point of the model parameters.
- Modify reptile algorithm to sample mini-batches from all domains in the inner loop.