

Programming Assignment 2

Due date: Sunday 22nd February 2026, EOD – IST

Important Instructions about Programming Assignments

1. Programming assignments will be evaluated automatically. **Do not** change the skeleton/template code provided to you.
2. Write your code **only in the designated places** in the skeleton/template code and process the input data provided to you in the designated variables. **Do not alter** the input-output structure in the skeleton code.
3. **Do not import** any additional libraries. **Do not use any additional files** for the processing (other than those mentioned in the skeleton code).
4. Failure to comply with these instructions may lead to you getting **zero marks** for the assignment, even if the solution is largely correct.
5. Remember that your output will be evaluated against test cases, therefore any deviation from the test cases will be considered incorrect during evaluation.
6. The code will be tested with a timeout constraint of 300ms but a correct solution should take far less execution time (approx. 100ms).
7. Only upload the final python (.py) solution file and nothing else.

Objective: To use Flan-T5-XL LLM to be able to answer the final question using the output from the previous questions from a session using in-context learning/few-shot learning.

Problem: Consider three related questions from a search session: Question 1, Question 2, Question 3.

1. First answer to Question 1 needs to be generated.
2. Then answer to Question 2 needs to be generated with the answer to Question 1 as one-shot example / in-context example.
3. Finally answer to Question 3 needs to be generated with the answer to Question 2 as one-shot example / in-context example.
4. Answer to Question 3 will be either YES or NO and nothing else.
5. You need to only provide the output for Question 3.

Instructions: The program accepts three parameters provided as a command line input. The three inputs represent the questions. The output of the first two question is generation based whereas the last question output is deterministic i.e., its output should be either YES or NO. Output should be in upper-case. There should be no additional output including any warning messages in the terminal.

Execution Syntax: `python template.py <string> <string> <string>`

The following examples are given for your reference:

Terminal Input: `python template.py "Who is Rabindranath Tagore?" "Where was he born?" "Is it in America?"`

Terminal Output: `NO`

Terminal Input: `python template.py "Who is Rabindranath Tagore?" "Where was he born?" "Is it in India?"`

Terminal Output: `YES`

NOTE: *You should create some similar examples on your own to test the correctness of your pipeline. You do not need to consider extremes. Create simple examples since FLAN T5 is a small model and can output unstable generation for out-of-domain vocabulary. Try to make the solution efficient to take less execution time.*