**Task Description: Feature Tagging & Filtration Pipeline**

**Objective:**

Students will create a pipeline that tags news articles with features extracted from the feature pool (derived from both news and annual reports and filters the news relevant to the cement sector. **The pipeline will be composed of a function-calling agent that automates the tagging, and filtration processes.**

**Task Overview:**

1. **Feature Tagging Tool:**
   * **Step 1:** Develop a tool that will automatically tag news articles with features from the existing feature pool. This feature pool should consist of relevant attributes identified from the news and annual reports of cement sector companies.
   * **Step 2:** Ensure that the function calling agent accurately associates each news article with the correct features. This tagging should be based on both direct mentions and inferred associations within the text.
2. **News Filtering Tool:**
   * **Step 3:** Create a filtration tool that processes the tagged news articles to identify and retain only those relevant to the cement sector.
   * **Step 4:** Your agent should automatically filter out relevant news articles.
3. **Pipeline Integration:**
   * **Step 5:** Integrate the tools in your function-calling agent into a cohesive pipeline. This pipeline should automate the entire process, from initial tagging to the filtering.
   * **Step 6:** Test the pipeline with a small batch of news articles to ensure that it functions correctly, making adjustments as necessary to improve accuracy and efficiency.
4. **Documentation and Submission:**
   * **Step 7:** Document the design and implementation of each tool, including the logic used for tagging, and filtering.
   * **Step 8:** Submit the final pipeline code, along with a brief report explaining how your agent works, the challenges faced, and the decisions made during development.

**Expected deliverable items in the code file:**

1. **Tagging Tool** Tags news articles with features from the feature pool.
2. **Filtration Tool**: Identifies and retains news relevant to the cement sector.
3. **Integrated Pipeline**: A fully integrated pipeline that automates the tagging, and filtering process.
4. **Documentation**: A detailed report explaining the pipeline's components, the logic behind your agent, and the overall performance.

**Submission Deadline:**

* Check LMS!

This task will help students understand how to design and implement function-calling agent within a pipeline, automate processes, and ensure that the final output is both relevant and actionable. *This experience is crucial for building agentic systems that can assist in real-time decision-making processes like trading recommendations.*