```
In [2]: !pip install feedparser sqlalchemy celery nltk
```

```
Collecting feedparser
  Downloading feedparser-6.0.11-py3-none-any.whl (81 kB)
Requirement already satisfied: sqlalchemy in c:\users\adhyacom\anaconda3\lib\site-
packages (1.4.32)
Collecting celery
  Downloading celery-5.3.6-py3-none-any.whl (422 kB)
Requirement already satisfied: nltk in c:\users\adhyacom\anaconda3\lib\site-packag
es (3.7)
Collecting sgmllib3k
  Downloading sgmllib3k-1.0.0.tar.gz (5.8 kB)
Requirement already satisfied: greenlet!=0.4.17 in c:\users\adhyacom\anaconda3\lib
\site-packages (from sqlalchemy) (1.1.1)
Collecting click-didyoumean>=0.3.0
  Downloading click_didyoumean-0.3.0-py3-none-any.whl (2.7 kB)
Collecting click-plugins>=1.1.1
  Downloading click_plugins-1.1.1-py2.py3-none-any.whl (7.5 kB)
Collecting tzdata>=2022.7
  Downloading tzdata-2023.4-py2.py3-none-any.whl (346 kB)
Collecting click-repl>=0.2.0
  Downloading click_repl-0.3.0-py3-none-any.whl (10 kB)
Collecting kombu<6.0,>=5.3.4
  Downloading kombu-5.3.5-py3-none-any.whl (200 kB)
Requirement already satisfied: python-dateutil>=2.8.2 in c:\users\adhyacom\anacond
a3\lib\site-packages (from celery) (2.8.2)
Collecting billiard<5.0,>=4.2.0
  Downloading billiard-4.2.0-py3-none-any.whl (86 kB)
Collecting vine<6.0,>=5.1.0
  Downloading vine-5.1.0-py3-none-any.whl (9.6 kB)
Collecting click<9.0,>=8.1.2
  Downloading click-8.1.7-py3-none-any.whl (97 kB)
Requirement already satisfied: tqdm in c:\users\adhyacom\anaconda3\lib\site-packag
es (from nltk) (4.64.0)
Requirement already satisfied: joblib in c:\users\adhyacom\anaconda3\lib\site-pack
ages (from nltk) (1.2.0)
Requirement already satisfied: regex>=2021.8.3 in c:\users\adhyacom\anaconda3\lib
\site-packages (from nltk) (2022.3.15)
Requirement already satisfied: colorama in c:\users\adhyacom\anaconda3\lib\site-pa
ckages (from click<9.0,>=8.1.2->celery) (0.4.4)
Collecting prompt-toolkit>=3.0.36
  Downloading prompt_toolkit-3.0.43-py3-none-any.whl (386 kB)
Collecting amqp<6.0.0,>=5.1.1
  Downloading amqp-5.2.0-py3-none-any.whl (50 kB)
Requirement already satisfied: typing-extensions in c:\users\adhyacom\anaconda3\li
b\site-packages (from kombu<6.0,>=5.3.4->celery) (4.1.1)
Requirement already satisfied: wcwidth in c:\users\adhyacom\anaconda3\lib\site-pac
kages (from prompt-toolkit>=3.0.36->click-repl>=0.2.0->celery) (0.2.5)
Requirement already satisfied: six>=1.5 in c:\users\adhyacom\anaconda3\lib\site-pa
ckages (from python-dateutil>=2.8.2->celery) (1.16.0)
Building wheels for collected packages: sgmllib3k
  Building wheel for sgmllib3k (setup.py): started
  Building wheel for sgmllib3k (setup.py): finished with status 'done'
  Created wheel for sgmllib3k: filename=sgmllib3k-1.0.0-py3-none-any.whl size=6066
sha256=ad8e99ab4ee54f8492df2ccf895fcfa63ad70b6f98058b54e61dce287b247a94
  Stored in directory: c:\users\adhyacom\appdata\local\pip\cache\wheels\65\7a\a7\7
8c287f64e401255dff4c13fdbc672fed5efbfd21c530114e1
Successfully built sgmllib3k
Installing collected packages: vine, prompt-toolkit, click, amqp, tzdata, sgmllib3
k, kombu, click-repl, click-plugins, click-didyoumean, billiard, feedparser, celer
y
  Attempting uninstall: prompt-toolkit
    Found existing installation: prompt-toolkit 3.0.20
    Uninstalling prompt-toolkit-3.0.20:
      Successfully uninstalled prompt-toolkit-3.0.20
  Attempting uninstall: click
```

```
    Found existing installation: click 8.0.4
    Uninstalling click-8.0.4:
      Successfully uninstalled click-8.0.4
Successfully installed amqp-5.2.0 billiard-4.2.0 celery-5.3.6 click-8.1.7 click-di
dyoumean-0.3.0 click-plugins-1.1.1 click-repl-0.3.0 feedparser-6.0.11 kombu-5.3.5
prompt-toolkit-3.0.43 sgmllib3k-1.0.0 tzdata-2023.4 vine-5.1.0
```

```
WARNING: Ignoring invalid distribution -rotobuf (c:\users\adhyacom\anaconda3\s
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ite-packages)
WARNING: Ignoring invalid distribution -ensorflow-intel (c:\users\adhyacom\anacond
a3\lib\site-packages)
```

In [31]:
```python
import feedparser
from hashlib import md5

def parse_rss_feed(feed_url):
    feed = feedparser.parse(feed_url)
    articles = []

    for entry in feed.entries:
        article = {
            'title': entry.title,
            'content': entry.summary,
            'pub_date': entry.published,
            'source_url': entry.link,
            'hash': md5(entry.title.encode('utf-8')).hexdigest()  # Unique hash for
        }
        articles.append(article)

    return articles
```

In [6]:
```python
!pip install psycopg2
```

```
Collecting psycopg2
  Downloading psycopg2-2.9.9-cp39-cp39-win_amd64.whl (1.2 MB)
Installing collected packages: psycopg2
Successfully installed psycopg2-2.9.9
```

```
WARNING: Ignoring invalid distribution -rotobuf (c:\users\adhyacom\anaconda3\lib\s
ite-packages)
WARNING: Ignoring invalid distribution -ensorflow-intel (c:\users\adhyacom\anacond
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ite-packages)
WARNING: Ignoring invalid distribution -ensorflow-intel (c:\users\adhyacom\anacond
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```

In [17]: `!pip install mysql-connector-python`

```
Collecting mysql-connector-python
```
```
WARNING: Ignoring invalid distribution -rotobuf (c:\users\adhyacom\anaconda3\lib\s
ite-packages)
WARNING: Ignoring invalid distribution -ensorflow-intel (c:\users\adhyacom\anacond
a3\lib\site-packages)
```
```
  Downloading mysql_connector_python-8.3.0-cp39-cp39-win_amd64.whl (15.4 MB)
Installing collected packages: mysql-connector-python
Successfully installed mysql-connector-python-8.3.0
```
```
WARNING: Ignoring invalid distribution -rotobuf (c:\users\adhyacom\anaconda3\lib\s
ite-packages)
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ite-packages)
WARNING: Ignoring invalid distribution -ensorflow-intel (c:\users\adhyacom\anacond
a3\lib\site-packages)
```

```python
In [33]:   from sqlalchemy import create_engine, Column, String, DateTime
           from sqlalchemy.ext.declarative import declarative_base
           from sqlalchemy.orm import sessionmaker

           Base = declarative_base()

           class Article(Base):
               __tablename__ = 'articles'

               id = Column(String(255), primary_key=True)
               title = Column(String(255))
               content = Column(String(255))
               pub_date = Column(DateTime)
               source_url = Column(String(255))
               category = Column(String(255), default='Others')

           # Update the engine URL for MySQL with the correct dialect and password
           engine = create_engine('mysql+mysqlconnector://root:22122037pk@localhost/assessment

           Base.metadata.create_all(engine)

           Session = sessionmaker(bind=engine)
           session = Session()
```

```python
In [34]:   from celery import Celery
           from nltk import classify

           app = Celery('tasks', broker='pyamqp://guest:guest@localhost//')


           def classify_category(content):

               pass

           @app.task
           def process_article(article):
               category = classify_category(article['content'])
               article_db = session.query(Article).filter_by(id=article['hash']).first()
               article_db.category = category
               session.commit()
```

```python
In [35]:   import logging

           logging.basicConfig(filename='app.log', level=logging.INFO)

           def parse_rss_feed(feed_url):
               try:
                   feed = feedparser.parse(feed_url)

               except Exception as e:
                   logging.error(f"Error while parsing feed {feed_url}: {str(e)}")
```

```python
In [ ]:
```

```python
In [ ]:
```

```python
In [ ]:
```

```python
In [ ]:
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