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“FOP PROJECT”

CODE:

```
import feedparser

import string

import time

import threading

from project_util import translate_html

from tkinter import *

from datetime import datetime



# -------------------------------------------------------------------------


# ======================

# Code for retrieving and parsing

# Google and Yahoo News feeds

# ======================


def process(url):
    """

    Fetches news items from the rss url and parses them.

    Returns a list of NewsStory instances.

    """
    feed = feedparser.parse(url)
    entries = feed.entries
    ret = []
    for entry in entries:
        guid = entry.guid
        title = translate_html(entry.title)
        link = entry.link

        # Check if description field exists
        if 'description' in entry:
            description = translate_html(entry.description)
        else:
            description = ""

        # Handling different date formats
        if 'published' in entry:
            pubdate_str = entry.published
        elif 'published_parsed' in entry:
            pubdate_str = time.strftime('%a, %d %b %Y
%H:%M:%S %Z', entry.published_parsed)
        else:
            continue

        try:
            pubdate = datetime.strptime(pubdate_str, "%a, %d %b %Y %H:%M:%S %Z")
        except ValueError:
            pubdate = datetime.strptime(pubdate_str, "%Y-%m-%dT%H:%M:%SZ")

        newsStory = NewsStory(guid, title, description, link, pubdate)
        ret.append(newsStory)
    return ret


# ======================
# Data structure design
# ======================

class NewsStory:
    def __init__(self, guid, title, description, link, pubdate):
        self.guid = guid
        self.title = title
        self.description = description
        self.link = link
        self.pubdate = pubdate
    def get_guid(self):
        return self.guid

    def get_title(self):
        return self.title

    def get_description(self):
        return self.description

    def get_link(self):
        return self.link

    def get_pubdate(self):
        return self.pubdate


# ======================
# Triggers
# ======================

class Trigger(object):
    def evaluate(self, story):
        raise NotImplementedError
```

```
class PhraseTrigger(Trigger):
    def __init__(self, phrase):
        self.phrase = phrase.lower()

    def is_phrase_in(self, text):
        text = text.lower()
        for char in string.punctuation:
            text = text.replace(char, ' ')
        text_words = text.split()
        phrase_words = self.phrase.split()
        for i in range(len(text_words) - len(phrase_words) + 1):
            if text_words[i:i + len(phrase_words)] == phrase_words:
                return True
        return False


class TitleTrigger(PhraseTrigger):
    def evaluate(self, story):
        return self.is_phrase_in(story.get_title())
```

```
class DescriptionTrigger(PhraseTrigger):
    def evaluate(self, story):
        return self.is_phrase_in(story.get_description())


class TimeTrigger(Trigger):
    def __init__(self, time):
        self.time = datetime.strptime(time, "%Y-%m-
%dT%H:%M:%SZ")


class BeforeTrigger(TimeTrigger):
    def evaluate(self, story):
        return story.get_pubdate() < self.time


class AfterTrigger(TimeTrigger):
    def evaluate(self, story):
        return story.get_pubdate() > self.time


class NotTrigger(Trigger):
    def __init__(self, trigger):
        self.trigger = trigger
    def evaluate(self, story):
        return not self.trigger.evaluate(story)


class AndTrigger(Trigger):
    def __init__(self, trigger1, trigger2):
        self.trigger1 = trigger1
        self.trigger2 = trigger2

    def evaluate(self, story):
        return self.trigger1.evaluate(story) and
self.trigger2.evaluate(story)


class OrTrigger(Trigger):
    def __init__(self, trigger1, trigger2):
        self.trigger1 = trigger1
        self.trigger2 = trigger2

    def evaluate(self, story):
        return self.trigger1.evaluate(story) or
self.trigger2.evaluate(story)
```

```
# ======================
# Filtering
# ======================

def filter_stories(stories, triggerlist):
    filtered_stories = []
    for story in stories:
        for trigger in triggerlist:
            if trigger.evaluate(story):
                filtered_stories.append(story)
                break
    return filtered_stories


# ======================
# User-Specified Triggers
# ======================

def read_trigger_config(filename):
    trigger_file = open(filename, 'r')
    lines = []
    for line in trigger_file:
```

```
    line = line.rstrip()
    if not (len(line) == 0 or line.startswith('//')):
        lines.append(line)
trigger_file.close()

triggers = {}
trigger_list = []

for line in lines:
    parts = line.split(',')
    if parts[0] == 'ADD':
        for name in parts[1:]:
            if name in triggers:
                trigger_list.append(triggers[name])
    else:
        trigger_name = parts[0]
        trigger_type = parts[1]
        if trigger_type == 'TITLE':
            triggers[trigger_name] = TitleTrigger(parts[2])
        elif trigger_type == 'DESCRIPTION':
            triggers[trigger_name] = DescriptionTrigger(parts[2])
        elif trigger_type == 'AFTER':
            triggers[trigger_name] = AfterTrigger(parts[2])
            elif trigger_type == 'BEFORE':
                triggers[trigger_name] = BeforeTrigger(parts[2])
            elif trigger_type == 'NOT':
                if parts[2] in triggers:
                    triggers[trigger_name] =
NotTrigger(triggers[parts[2]])
            elif trigger_type == 'AND':
                if parts[2] in triggers and parts[3] in triggers:
                    triggers[trigger_name] =
AndTrigger(triggers[parts[2]], triggers[parts[3]])
            elif trigger_type == 'OR':
                if parts[2] in triggers and parts[3] in triggers:
                    triggers[trigger_name] =
OrTrigger(triggers[parts[2]], triggers[parts[3]])

    return trigger_list



# ======================
# Main Thread
# ======================

SLEEPTIME = 120  # seconds
```

```
def main_thread(master, keywords):
    try:
        triggerlist = []
        if keywords:
            for keyword in keywords:
                triggerlist.append(OrTrigger(TitleTrigger(keyword), DescriptionTrigger(keyword)))

        frame = Frame(master)
        frame.pack(side=BOTTOM)
        scrollbar = Scrollbar(master)
        scrollbar.pack(side=RIGHT, fill=Y)

        t = "Google & Yahoo Top News"
        title = StringVar()
        title.set(t)
        ttl = Label(master, textvariable=title, font=("Helvetica", 18))
        ttl.pack(side=TOP)
        cont = Text(master, font=("Helvetica", 14), yscrollcommand=scrollbar.set)
        cont.pack(side=BOTTOM)
        cont.tag_config("title", justify='center')
        button = Button(frame, text="Exit",
command=master.destroy)
        button.pack(side=BOTTOM)
        guidShown = []

        def get_cont(newstory):
            if newstory.get_guid() not in guidShown:
                cont.insert(END, newstory.get_title() + "\n", "title")
                cont.insert(END, "\n---------------------------------------------
-------------------\n", "title")
                cont.insert(END, newstory.get_description())
                cont.insert(END,
"\n**********************************************************************
\n", "title")
                guidShown.append(newstory.get_guid())

        while True:
            print("Polling...")
            stories =
process("http://news.google.com/news?output=rss")

stories.extend(process("http://news.yahoo.com/rss/topstories"))

            stories = filter_stories(stories, triggerlist)
```

```
            list(map(get_cont, stories))
            scrollbar.config(command=cont.yview)

            print(f"No keywords provided. Continuing to poll...")
            time.sleep(SLEEPTIME)

    except Exception as e:
        print(f"Error occurred: {e}")

        def get_cont(newstory):
            if newstory.get_guid() not in guidShown:
                cont.insert(END, newstory.get_title() + "\n", "title")
                cont.insert(END, "\n------------------------------------------
------------------\n", "title")
                cont.insert(END, newstory.get_description())
                cont.insert(END,
"\n******************************************************************
\n", "title")
                guidShown.append(newstory.get_guid())

        while True:
            print("Polling...")
            stories =
process("http://news.google.com/news?output=rss")
```

```
stories.extend(process("http://news.yahoo.com/rss/topstories"))

            stories = filter_stories(stories, triggerlist)

            list(map(get_cont, stories))
            scrollbar.config(command=cont.yview)

            print(f"No keywords provided. Continuing to poll...")
            time.sleep(SLEEPTIME)

    except Exception as e:
        print(f"Error occurred: {e}")

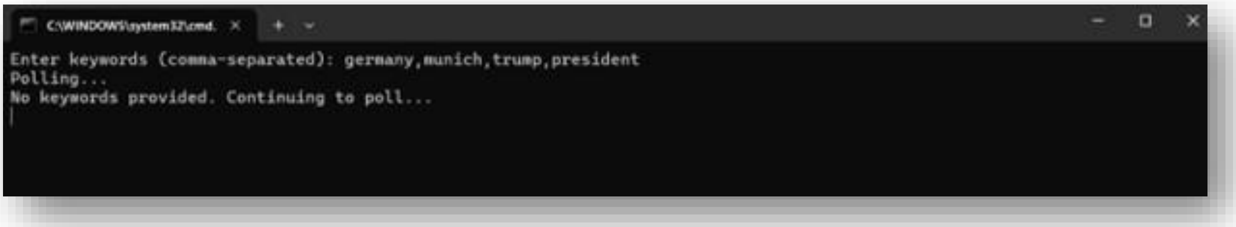

if __name__ == '__main__':
    root = Tk()
    root.title("RSS Feed Filter")

    keywords = input("Enter keywords (comma-separated): 
").strip().split(',')
    keywords = [keyword.strip() for keyword in keywords if 
keyword.strip()]
```

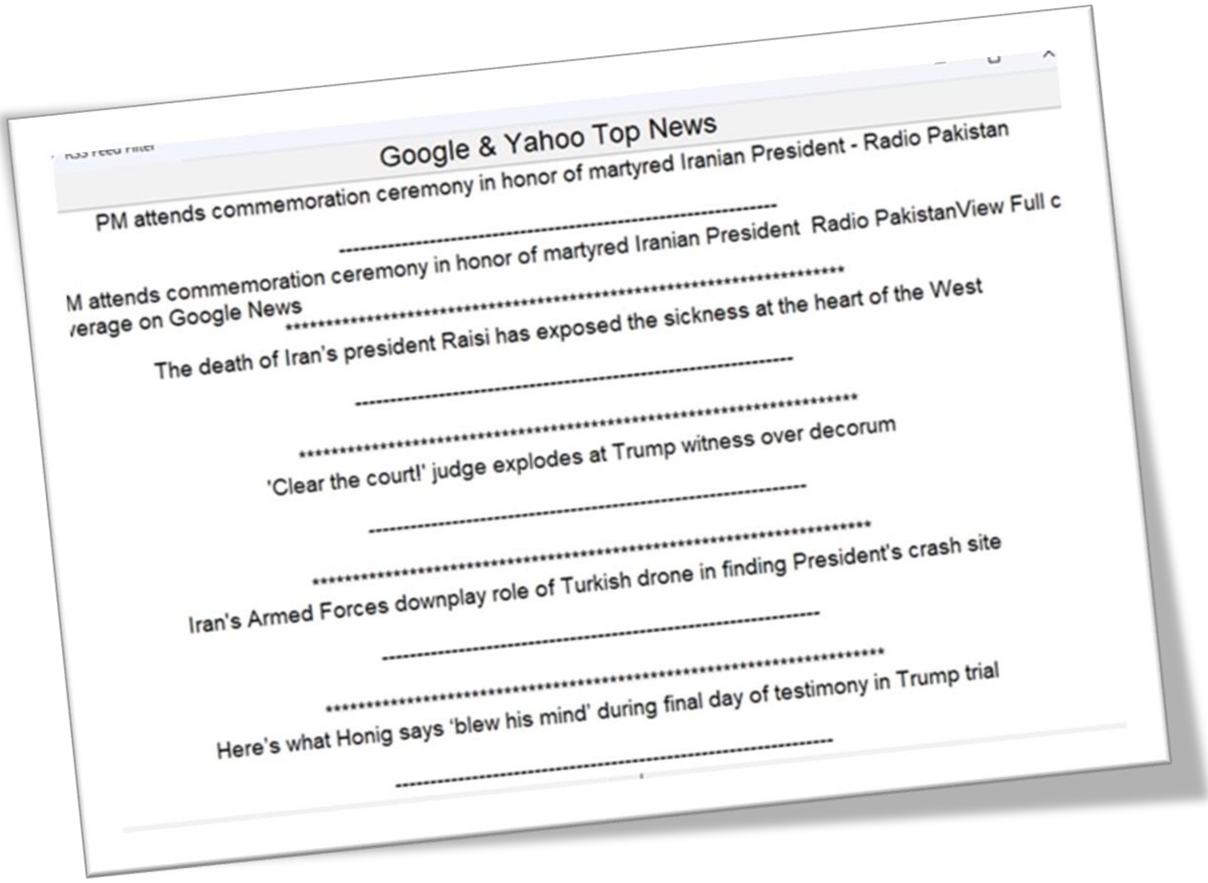
```
    t = threading.Thread(target=main_thread, args=(root, keywords))
    t.start()


    root.mainloop()
```

SCREENSHOTS:



```
Enter keywords (comma-separated): germany,munich,trump,president
Polling...
No keywords provided. Continuing to poll...
```



Google & Yahoo Top News

PM attends commemoration ceremony in honor of martyred Iranian President - Radio Pakistan

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M attends commemoration ceremony in honor of martyred Iranian President Radio PakistanView Full c
/erage on Google News

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The death of Iran's president Raisi has exposed the sickness at the heart of the West

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'Clear the court!' judge explodes at Trump witness over decorum

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Iran's Armed Forces downplay role of Turkish drone in finding President's crash site

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Here's what Honig says 'blew his mind' during final day of testimony in Trump trial

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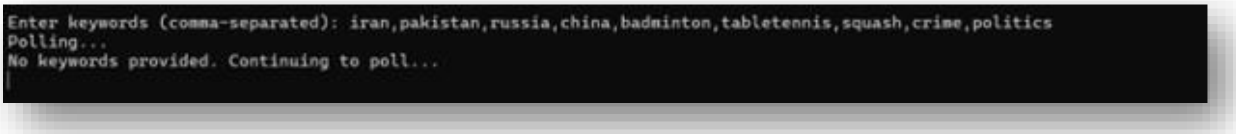
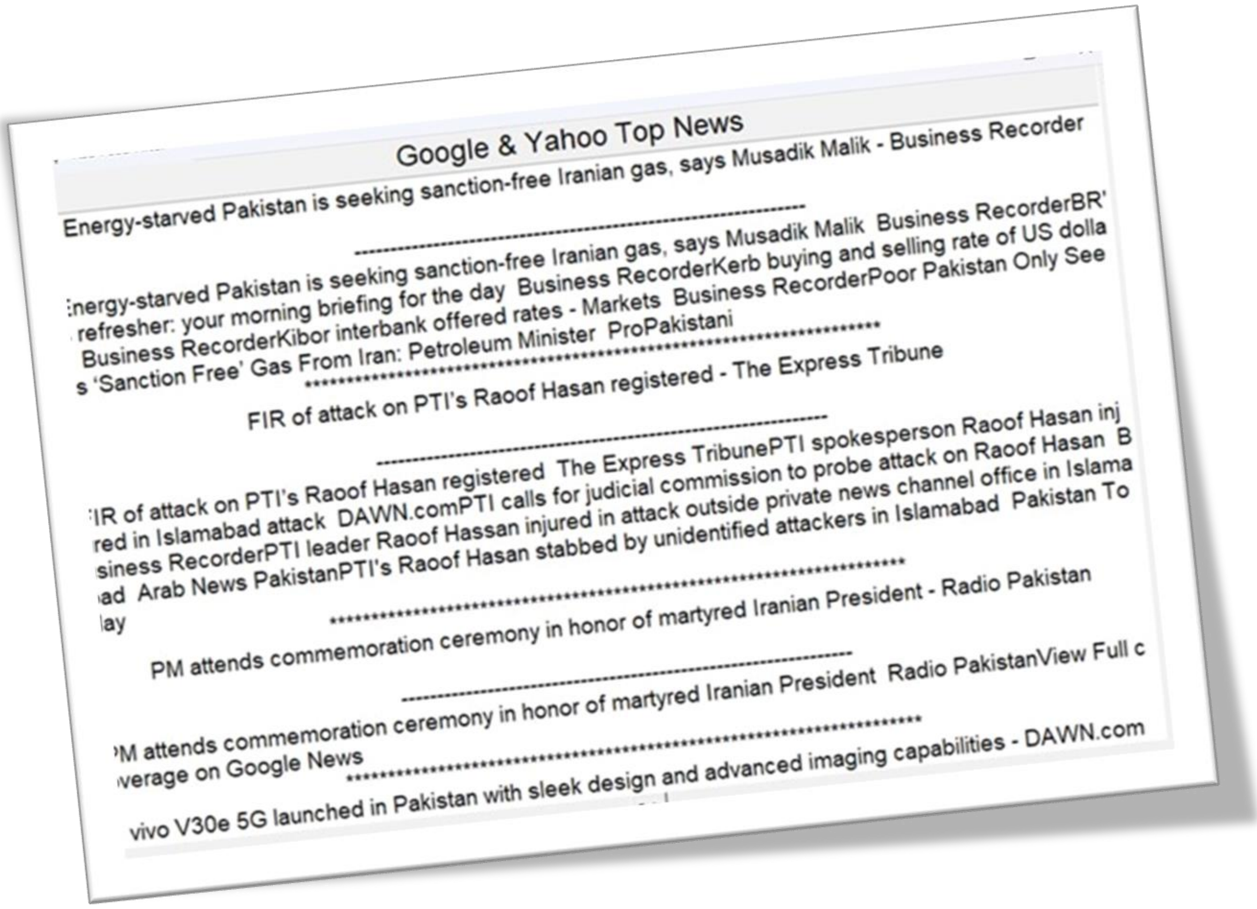


```
Enter keywords (comma-separated): iran,pakistan,russia,china,badminton,tabletennis,squash,crime,politics
Polling...
No keywords provided. Continuing to poll...
```



Google & Yahoo Top News

```
Energy-starved Pakistan is seeking sanction-free Iranian gas, says Musadik Malik - Business Recorder
------------------------------------------------------------
Energy-starved Pakistan is seeking sanction-free Iranian gas, says Musadik Malik  Business RecorderBR'
 refresher: your morning briefing for the day  Business RecorderKerb buying and selling rate of US dolla
 Business RecorderKibor interbank offered rates - Markets  Business RecorderPoor Pakistan Only See
s 'Sanction Free' Gas From Iran: Petroleum Minister  ProPakistani
************************************************************
FIR of attack on PTI's Raoof Hasan registered - The Express Tribune
------------------------------------------------------------
IR of attack on PTI's Raoof Hasan registered  The Express TribunePTI spokesperson Raoof Hasan inj
red in Islamabad attack  DAWN.comPTI calls for judicial commission to probe attack on Raoof Hasan  B
siness RecorderPTI leader Raoof Hassan injured in attack outside private news channel office in Islama
ad  Arab News PakistanPTI's Raoof Hasan stabbed by unidentified attackers in Islamabad  Pakistan To
lay
************************************************************
PM attends commemoration ceremony in honor of martyred Iranian President - Radio Pakistan
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'M attends commemoration ceremony in honor of martyred Iranian President  Radio PakistanView Full c
verage on Google News
************************************************************
vivo V30e 5G launched in Pakistan with sleek design and advanced imaging capabilities - DAWN.com
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