```python
import pandas as pd
import numpy as np
import nltk
from nltk.stem.snowball import SnowballStemmer
from sklearn.feature_extraction.text import TfidfVectorizer
from sklearn.metrics.pairwise import cosine_similarity
import streamlit as st
from PIL import Image

# Download punkt (only once, needed for word_tokenize)
nltk.download('punkt')

# Load dataset
data = pd.read_csv('C:\\Users\\hp\\Downloads\\amazon_product.csv')

# Remove unnecessary column if exists
if 'id' in data.columns:
    data = data.drop('id', axis=1)

# Define tokenizer and stemmer
stemmer = SnowballStemmer('english')
def tokenize_and_stem(text):
    tokens = nltk.word_tokenize(str(text).lower())
    stems = [stemmer.stem(t) for t in tokens if t.isalpha()]  # keep only word
    return stems

# Create a text column combining Title + Description
data['text'] = data['Title'].fillna('') + ' ' + data['Description'].fillna('')

# TF-IDF vectorizer (fit once on whole dataset)
tfidf_vectorizer = TfidfVectorizer(tokenizer=tokenize_and_stem)
tfidf_matrix = tfidf_vectorizer.fit_transform(data['text'])

# Search function
def search_products(query, top_n=10):
    query_tfidf = tfidf_vectorizer.transform([query])
    cosine_similarities = cosine_similarity(query_tfidf, tfidf_matrix).flatten
    data['similarity'] = cosine_similarities
    results = data.sort_values(by='similarity', ascending=False).head(top_n)[[
    return results

# # Example: show one product
# print(data['Title'].iloc[1])

# # Example: search
# query = "PURELL ES8 Professional HEALTHY SOAP Foam Refill, Fresh Scent Fragr
# results = search_products(query)
# print(results)
```

In [ ]:
```python
# # Example: show one product
print(data['Title'].iloc[10])
```

In [9]:
```python
# # Example: search
query = "PURELL ES8 Professional HEALTHY SOAP Foam Refill, Fresh Scent Fragran
results = search_products(query)
print(results)
```

```
                                                    Title  \
10      PURELL ES8 Professional HEALTHY SOAP Foam Ref...
517     Mrs. Meyer Liquid Hand Soap Parsley & Rhubarb...
322     EO PRODUCTS SOAP,EVERYONE,CITRUS&MINT, 32 FZ ...
84      Body Fantasies Fresh White Musk 3 Piece Gift ...
324     Topiclear Number One Soap 3 Ounce Boxed (88ml...
628     Allied Brass 2032-VB Continental Collection W...
13      BRUT After Shave Classic Fragrance 5 oz (Pack...
544     GUM Proxabrush Go-Betweens Interdental Brush ...
291     Febreze Air Freshener, Noticeables Air Freshe...
606     Aquaphor Healing Skin Ointment Advanced Thera...

                                              Description  \
10    1200 ml refill for Purell ES8 touch-free soap ...
517   Mrs. Meyer's Clean Day Liquid Hand Soap Variet...
322   EO Products Everyone Soap Citrus and Mint is f...
84    Blends the clean fresh natural scents of brigh...
324   Develops A Remarkable Bactericidal And Fungici...
628   Check out our new bath goods collection! All o...
13    BRUT After Shave Classic Fragrance 5 oz (Pack ...
544   GUM Proxabrush Go-Betweens handle and refills ...
291   Febreze PLUG doesn't just mask odors, it clean...
606   For Dry, Cracked Or Irritated Skin, Preservati...

                                     Category  similarity
10    Industrial & Scientific › Janitorial & Sanita...    0.954629
517   Beauty & Personal Care › Foot, Hand & Nail Ca...    0.195367
322   Beauty & Personal Care Skin Care Body Cleanse...    0.153948
84      Beauty & Personal Care Fragrance Women's Sets    0.139735
324   Beauty & Personal Care › Skin Care › Body › C...    0.125924
628   Home & Kitchen › Bath › Bathroom Accessories ...    0.124217
13    Beauty & Personal Care › Shave & Hair Removal...    0.117588
544   Industrial & Scientific Professional Dental S...    0.106884
291   Health & Household › Household Supplies › Air...    0.105009
606   Health & Household › Health Care › Medication...    0.104901
```