Your Guess the Flipkart Query submission got 27.10 points. **f Share**   **Tweet**
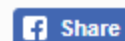
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Guess the Flipkart Query ⚑

by **PRASHANTB1984**

Problem	Submissions	Leaderboard	Discussions	Editorial

Flipkart is a popular Indian e-commerce portal. One of the most common actions performed by users of the portal, is to use the search box and query for a brand, product or product-line. The search box then returns the best matching products which it can find - along with their prices, details, descriptions, etc.

We tried out **twenty** different search queries (specified below), and made a list of some of the product names which were returned in response to them. You are provided with a list of **N** names of products from this list. Your task is to guess, **which search query** each of them was returned in response to.

The twenty search queries we made were:

```
axe deo
best-seller books
calvin klein
camcorder
camera
chemistry
chromebook
c programming
data structures algorithms
dell laptops
dslr canon
mathematics
nike-deodrant
physics
sony cybershot
spoken english
timex watch
titan watch
tommy watch
written english
```

Here's a small example of the task at hand:

*In response to which of these queries, was the product 'Dell Vostro 2520 Laptop (2nd Gen PDC/ 2GB/ 320GB/ Linux...'
(most likely) returned?*
Answer:**dell laptops**

*In response to which of these queries, was the product 'Calvin Klein One Eau de Toilette - 200 ml' (most likely)
returned?*
Answer:**calvin klein**

Input Format

The first line contains an integer **N**.
This is followed by **N** lines each containing the name of a product.

Input Constraints

1 <= N <= 200
The product names will not exceed **200 characters** in length. Sometimes, when the product name is long and descriptive, after the first 55 characters, there are likely to be a series of dots, such as the examples below. Please handle them appropriately (strip them off, or ignore them).

```
Laptops: AMD Mobile Platform, AMD Vision, Barebook, Cen...
Dell Vostro 2520 Laptop (2nd Gen PDC/ 2GB/ 320GB/ Linux...
Dell Inspiron 15R 5521 Laptop (3rd Gen Ci7/ 8GB/ 1TB/ W...
```

Output Format

The output should contain exactly **N** lines.
The ith line should contain the query (your best guess) which returned the ith product name in the input file. The query should strictly be from one of the twenty queries specified above, **as is**. Please do not add any leading or trailing spaces or any extra punctuation. Also ensure that the case remains the same.

Sample Input, Output and Training Files

The sample input, output and training files can be accessed at the following links:

Training File

Sample Input

Sample Output

The training file can also be opened from your program, during execution. It can be opened using the name "training.txt" and is available in the same directory where the program is being run.

Sample Input

```
60
Data Structures and Algorithms with Object- Oriented Design Patterns in C++ 1 Edition (Paperback)
God Moments: Stories That Inspire, Moments to Remember (Paperback)
The Ultimate C: Concepts, Programs and Interview Questions (Paperback)
Canon EOS 1100D SLR (Black, with Kit (EF S18-55 III))
A Textbook of Organic Chemistry for JEE Main & Advanced and Other Engineering Entrance Examinations
(Paperback)
Test your C ++ Skills 1 Edition (Paperback)
IIM Ahmedabad Business Books: Day to Day Economics (Paperback)
Calvin Klein One Eau de Toilette  -  200 ml
..........
```

Sample Output

```
data structures algorithms
written english
c programming
dslr canon
chemistry
c programming
best-seller books
calvin klein
............
```

Explanation

The first product in the sample input is a book 'Data Structures and Algorithms with Object- Oriented Design Patterns in C++ 1 Edition (Paperback)' which was returned in response to the query **'data structures algorithms'**. The second product in the sample input is a paperback book 'God Moments: Stories That Inspire, Moments to Remember (Paperback)' which was returned in response to the query **'written english'**. Please note, that as in the real world, there are always cases like the second one, where it is nearly impossible - to identify which is the most appropriate search query which led to this product: that is fine - you can answer with your best guess in such situations.

Training File

A small training file with a few examples of products returned for the various search queries is available. Please note, that this is only a **small** training file, and it is expected that a mix of simple and creative ideas from machine learning, string matching and information retrieval will be used in the submitted solution.

The format of the training file is as specified:

The first line contains an integer **N**.
This is followed by **N** lines each containing the product name, and the search query, **separated by a tab** character.

```
N
productName_1    query_1
productName_2    query_2
productName_3    query_3
....
```

Here's a quick look at what the training file looks like:

```
111
Calvin Klein IN2U Eau de Toilette  -  150 ml (For Men)  calvin klein
For The Love of Physics (Paperback) physics
Nike Fission Deodorant Spray  -  200 ml (For Men)    nike-deodrant
Spoken English (With CD) 2nd Edition (Paperback)    spoken english
The C++ Programming Language 3 Edition (Paperback)  c programming
......
```

Scoring

Your score for a test case = C/N * M where:

M = Maximum Score for the test case C = search queries correctly identified N = Total number of product names in the test case

The hidden test case carries **thrice** as much weightage as the sample test case (which is visible on hitting 'Compile and Test').

Libraries

Libraries available in our Machine Learning/Real Data challenges will be enabled for this contest and are listed here.
Please note, that occasionally, a few functions or modules might not work in the constraints of our infrastructure.
For instance, some modules try to run multiple threads (and fail). So please try importing the library and functions
and cross checking if they work in our online editor in case you plan to develop a solution locally, and then upload
to our site.

Current Buffer (saved locally, editable) | Python 2

```python
1   #Sourav Nandi
2   #Project Work In ISI Kolkata in Dec 2017
3   import re
4   query = ['axe deo','best-seller books','calvin klein','camcorder','camera','chemistry','chromebook','c programming'
5   ,'data structures algorithms','dell laptops','dslr canon','mathematics','nike-deodrant','physics','sony cybershot'
6   ,'spoken english','timex watch','titan watch','tommy watch','written english']
7   train_data = []
8   test_data = []
9   train_y = []
10  index = -1
11  for line in open('training.txt'):
12          if index == -1:
13              index = int(line.strip())
14          else:
15              tmp = re.split(r'\t+', line)
16              train_data.append(tmp[0])
17              word = tmp[1].split('\n')
18
19              train_y.append(query.index(word[0]))
20  #print train_data
21  from sklearn.feature_extraction.text import CountVectorizer,TfidfTransformer
22  count_vect = CountVectorizer(ngram_range = (1,1),max_df = 0.1)
23  tfidf_transformer = TfidfTransformer(use_idf=False)
24  X_train_counts = count_vect.fit_transform(train_data)
25
26  X_train_tfidf = tfidf_transformer.fit_transform(X_train_counts)
27
28
29
30  from sklearn.ensemble import RandomForestClassifier
31  clf = RandomForestClassifier(n_estimators=100,max_depth = None,random_state = 0)
32  clf = clf.fit(X_train_tfidf.toarray(), train_y)
33
34  #print clf.score(X_train_tfidf,train_y)
35  N = int(raw_input())
36  from nltk.tokenize import RegexpTokenizer
37  tokenizer = RegexpTokenizer("[\w']+|[+]{2}")
38
39
40
41  test2 = []
42  for i in range(N):
43      tm = raw_input()
44      liness = tokenizer.tokenize(tm)
45      test2.append(liness)
46      test_data.append(tm)
47  X_new_counts = count_vect.transform(test_data)
48  X_new_tfidf = tfidf_transformer.transform(X_new_counts)
49  predicted = clf.predict(X_new_tfidf.toarray())
50  #print clf.predict_proba(X_new_tfidf)
51  for x in range(len(predicted)):
52      tmp = [t.lower() for t in test2[x]]
53      for y in query:
54          flag = 1
55          for z in y.split():
56              if z not in tmp:
57                  flag = 0
58                  break
59          if flag == 1:
60              if 'physicists' in tmp:
61                  print query[13]
62                  break
63              else:
64                  print y
65                  break
66
67      if flag == 0:
68          if 'dell' not in tmp and ('laptop' in tmp or 'laptops' in tmp): print query[6]
69          elif 'spoken' in tmp or 'Spoken' in tmp: print query[-5]
70          elif 'written' in tmp or 'ibps' in tmp or 'bank' in tmp or 'story' in tmp or 'banking' in tmp or 'stories' in tmp: print
    query[-1]
71
72          elif 'book' in tmp or 'books' in tmp: print query[1]
73          elif '++' in tmp or 'c' in tmp: print query[7]
74          elif 'combos' in tmp or 'combo' in tmp: print query[9]
75
76          else: print query[predicted[x]]
77          #print query[predicted[x]]
78
79
```

⬆ Upload Code as File   ☐ Test against custom input

Run Code   **Submit Code**

Testcase 0 ✔

Congratulations, you passed the sample test case.
Click the **Submit Code** button to run you code against all the test cases.

Score: 0.9333333373069763

Input (stdin)

```
60
Data Structures and Algorithms with Object- Oriented Design Patterns in C++ 1 Edition (Paperback)
God Moments: Stories That Inspire, Moments to Remember (Paperback)
The Ultimate C: Concepts, Programs and Interview Questions (Paperback)
Canon EOS 1100D SLR (Black, with Kit (EF S18-55 III))
A Textbook of Organic Chemistry for JEE Main & Advanced and Other Engineering Entrance Examinations (Paperback)
Test your C ++ Skills 1 Edition (Paperback)
IIM Ahmedabad Business Books: Day to Day Economics (Paperback)
Calvin Klein One Eau de Toilette  -  200 ml
A Practical Guide to Spoken English: Improve Your Communication Skills and Be On Top in Today's Competitve World (Paperback)
Olympiad Champs Science, Mathematics and English Class 5 - Set of 3 Books : 18 Mock Olympiad CD with Insta Reports 1st Edition (Paperback)
Chapterwise Topicwise Questions-Solutions Mathematics for Engineering Entrances 1st Edition (Paperback)
Atomic Physics: 8th Edition 8th  Edition (Paperback)
Head First C (Paperback)
Mathematics for Physicists New edition Edition (Paperback)
The C Programming Language : Ansi C Version 2 Edition (Paperback)
Axe Musk Deodorant Spray  -  150 ml (For Men)
Question Bank - Physics, Chemistry and Biology for Class 12th (Set of 3 Books) 1st Edition (Paperback)
Timex Analog Watch  - For Men (Silver)
Sony CyberShot DSC-WX300 Point & Shoot (Brown)
Essential Physical Chemistry for JEE Main & Advanced (Paperback)
Introduction To Financial Accounting
Essential Organic Chemistry: The Perfect Book for JEE Main & Advanced (Paperback)
Problems Plus In IIT Mathematics (Paperback)
Sony CyberShot DSC-WX50 Point & Shoot (Pink)
Read It Yourself: Books Box Level 4 (Set Of 6 Titles) (Paperback)
Principles Of Physics 9th Edition (Paperback)
Sony HDR-AS30V Full HD Action Camcorder
Programming in ANSI C 6th  Edition (Paperback)
Canon EOS 60D SLR (Black, with Kit EF-S18-55mm Lens)
Axe Denim Deodorant Spray with Offer - 150 ml (For Men)
Case Logic DCB-301 Camera Case (Black)
Titan Raga Analog Watch  - For Women (Gold)
Comprehensive Chemistry - JEE Advanced 2014 1st Edition (Paperback)
Sony Cybershot DSC-WX7 Point & Shoot (Black)
GENERAL CHEMISTRY? 3rd  Edition (Paperback)
Laptops: AMD Mobile Platform, AMD Vision, Barebook, Cen...
Calvin Klein One Eau de Toilette  -  200 ml (Unisex)
Calvin Klein One Eau de Toilette  -  50 ml (Unisex)
Study Package For IBPS Institute of Banking Personnel Selection: Common Written Examination Clerical Cadre Recruitment 1st Edition (Paperback)
Sony CyberShot DSC-WX300 Point & Shoot (Red)
Question Bank - Physics, Chemistry and Mathematics for Class 12th (Set of 3 Books) 1st Edition (Paperback)
3 more combos
Dell Vostro 2520 Laptop (2nd Gen PDC/ 2GB/ 320GB/ Linux...
Advanced Engineering Mathematics 9 Edition (Paperback)
Comprehensive Mathematics - JEE Advanced 2014 1st Edition (Paperback)
Dell Inspiron 15R 5521 Laptop (3rd Gen Ci7/ 8GB/ 1TB/ W...
2 more combos
Concise Inorganic Chemistry 5 Edition (Paperback)
Nike Up or Down Deodorant Spray  -  200 ml (For Men)
10 more combos
Calvin Klein Eternity Eau de Parfum  -  50 ml (For Women)
Titan Karishma Analog Watch  - For Women (Silver, Gold)
Titan Karishma Analog Watch  - For Men (Gold, Silver)
Axe Marine Deodorant Spray  -  150 ml (For Men)
Concepts Of Physics (Volume - 2) 2nd Edition (Paperback)
Sony DCR-SX22E Camcorder (Black)
Sony Cybershot DSC-S5000 Point & Shoot (Silver)
Calvin Klein Euphoria Eau de Toilette  -  100 ml (For Men)
Spoken English: A Manual of Speech and Phonetics (With CD) 4 Edition (Paperback)
Spoken English (With CD) (Paperback)
```

Your Output (stdout)

```
data structures algorithms
written english
c programming
dslr canon
chemistry
c programming
best-seller books
calvin klein
spoken english
mathematics
mathematics
physics
c programming
physics
c programming
axe deo
chemistry
timex watch
```

```
sony cybershot
chemistry
data structures algorithms
chemistry
mathematics
sony cybershot
best-seller books
physics
camcorder
c programming
dslr canon
axe deo
camera
titan watch
chemistry
sony cybershot
chemistry
chromebook
calvin klein
calvin klein
written english
sony cybershot
chemistry
dell laptops
dell laptops
mathematics
mathematics
dell laptops
dell laptops
chemistry
nike-deodrant
dell laptops
calvin klein
titan watch
titan watch
axe deo
physics
camcorder
sony cybershot
calvin klein
spoken english
spoken english
```

Expected Output

```
data structures algorithms
written english
c programming
dslr canon
chemistry
c programming
best-seller books
calvin klein
spoken english
mathematics
mathematics
physics
c programming
physics
c programming
axe deo
chemistry
timex watch
sony cybershot
chemistry
c programming
chemistry
mathematics
sony cybershot
best-seller books
physics
camcorder
c programming
dslr canon
axe deo
camera
titan watch
chemistry
sony cybershot
chemistry
chromebook
calvin klein
calvin klein
written english
sony cybershot
physics
axe deo
dell laptops
mathematics
mathematics
dell laptops
axe deo
chemistry
nike-deodrant
dell laptops
calvin klein
titan watch
titan watch
axe deo
physics
camcorder
sony cybershot
```

```
calvin klein
spoken english
spoken english
```