**Experiment1: Sampled in 11/30/2016.**

Note: Data are changing every day and every minute. The current research result we sampled this snapshot just to learn the market for a short period amount of time around the time we are currently.

1. keyword: backpack ,

1-48 of 2,215,957 results for "backpack"

URL: https://www.amazon.com/s/ref=nb\_sb\_noss\_2?url=search-alias%3Daps&field-keywords=backpack

Note: The above is a rough number, it indicates more than accurate search. Some keyword regarding ‘backpack’ is just a part of the description or keyword of the real product.

2. keyword: backpack and navigate to **casual daypacks** in the left panel.

Data taken in Nov 30th 2016.

1-48 of 46,975 results for Clothing, Shoes & Jewelry : Luggage & Travel Gear : Backpacks : Casual Daypacks :

"backpack"

note: there are top brands pod in the top of amazon. They are JanSport, High Sierra, under armour, The north face,

Diesel, Oakley.

URL: https://www.amazon.com/s/ref=sr\_nr\_n\_1?fst=as%3Aoff&rh=n%3A2404179011%2Ck%3Abackpack&keywords=backpack&ie=UTF8&qid=1480556337&rnid=2941120011

Data taken in Dec 4th.

## Size: 1-48 of 52,542 results for [Clothing, Shoes & Jewelry](https://www.amazon.com/s/ref=sr_hi_1?rh=n:7141123011,k:backpack&keywords=backpack&ie=UTF8&qid=1480910176) : [Luggage & Travel Gear](https://www.amazon.com/s/ref=sr_hi_2?rh=n:7141123011,n:9479199011,k:backpack&keywords=backpack&ie=UTF8&qid=1480910176) : [Backpacks](https://www.amazon.com/s/ref=sr_hi_3?rh=n:7141123011,n:9479199011,n:360832011,k:backpack&keywords=backpack&ie=UTF8&qid=1480910176) : [Casual Daypacks](https://www.amazon.com/s/ref=sr_hi_4?rh=n:7141123011,n:9479199011,n:360832011,n:2404179011,k:backpack&keywords=backpack&ie=UTF8&qid=1480910176) :

["backpack"](https://www.amazon.com/s/javascript:void(0))

3. same as above but navigate to the hiking daypacks.

URL: https://www.amazon.com/s/ref=sr\_ex\_n\_5?rh=n%3A7141123011%2Cn%3A9479199011%2Cn%3A360832011%2Cn%3A3400471%2Ck%3Abackpack&bbn=360832011&keywords=backpack&ie=UTF8&qid=1480556514

## Data taken in Dec 4th.

## Size: 1-48 of 26,479 results for [Clothing, Shoes & Jewelry](https://www.amazon.com/s/ref=sr_hi_1?rh=n:7141123011,k:backpack&bbn=7141123011&keywords=backpack&ie=UTF8&qid=1480910090) : [Luggage & Travel Gear](https://www.amazon.com/s/ref=sr_hi_2?rh=n:7141123011,n:9479199011,k:backpack&bbn=9479199011&keywords=backpack&ie=UTF8&qid=1480910090) : [Backpacks](https://www.amazon.com/s/ref=sr_hi_3?rh=n:7141123011,n:9479199011,n:360832011,k:backpack&bbn=360832011&keywords=backpack&ie=UTF8&qid=1480910090) : [Hiking Daypacks](https://www.amazon.com/s/ref=sr_hi_4?rh=n:7141123011,n:9479199011,n:360832011,n:3400471,k:backpack&bbn=3400471&keywords=backpack&ie=UTF8&qid=1480910090) :

["backpack"](https://www.amazon.com/s/javascript:void(0))

Question: does the URL can be reused?

A: the above URL works.

4. In the Backpacks in general under Shoes & Jewelry : Luggage & Travel Gear : Backpacks :

1-48 of 199,457 results for Clothing, Shoes & Jewelry : Luggage & Travel Gear : Backpacks :

"backpack"

Note: top brands are Swiss gear, under armour, everest, JanSport, High Sierra, and Alpine Swiss.

4.1. Computer/laptop backpack

1-24 of 79,878 results for Electronics : Computers & Accessories : Laptop Accessories : Bags, Cases & Sleeves : Backpacks :

"backpack"

URL: https://www.amazon.com/s/ref=sr\_nr\_n\_12?fst=as%3Aoff&rh=n%3A335604011%2Ck%3Abackpack&keywords=backpack&ie=UTF8&qid=1480556337&rnid=2941120011

4.2 Hiking daypacks

1-24 of 26,298 results for Sports & Outdoors : Outdoor Recreation : Camping & Hiking : Backpacks & Bags : Backpacking Packs : Hiking Daypacks :

"backpack"

URL: https://www.amazon.com/s/ref=sr\_nr\_n\_17?fst=as%3Aoff&rh=n%3A3400471%2Ck%3Abackpack&keywords=backpack&ie=UTF8&qid=1480556337&rnid=2941120011

5. Backpacking Packs

Data taken in Nov 30th, 2016.

Note: There are three sub categories in this category. They are

Hiking Daypacks (26218)

Internal Frame backpack (1275)

Hydration pack (2223)

1-24 of 30,439 results for Sports & Outdoors : Outdoor Recreation : Camping & Hiking : Backpacks & Bags : Backpacking Packs :

"backpack"

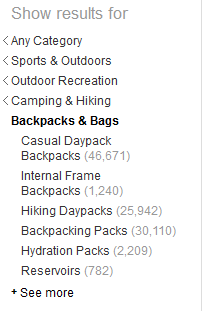
In total, there are 30,439 results.

8. Backpack in Sports & Outdoors

1-24 of 89,740 results for Sports & Outdoors : Outdoor Recreation : Camping & Hiking : Backpacks & Bags :

"backpack"

To breakdown the percentage, we can see the following,



The above shows that the categories are in cascade mode.

URL: <https://www.amazon.com/s/ref=sr_nr_n_20?fst=as%3Aoff&rh=n%3A3400391%2Ck%3Abackpack&keywords=backpack&ie=UTF8&qid=1480556337&rnid=2941120011>

1. Tactical backapcks

Category: 1-24 of 6,311 results for [Sports & Outdoors](https://www.amazon.com/s/ref=sr_hi_1?rh=n:3375251,k:backpack&keywords=backpack&ie=UTF8&qid=1480556537) : [Sports & Fitness](https://www.amazon.com/s/ref=sr_hi_2?rh=n:3375251,n:10971181011,k:backpack&keywords=backpack&ie=UTF8&qid=1480556537) : [Hunting & Fishing](https://www.amazon.com/s/ref=sr_hi_3?rh=n:3375251,n:10971181011,n:706813011,k:backpack&keywords=backpack&ie=UTF8&qid=1480556537) : [Tactical & Personal Defense](https://www.amazon.com/s/ref=sr_hi_4?rh=n:3375251,n:10971181011,n:706813011,n:3222111011,k:backpack&keywords=backpack&ie=UTF8&qid=1480556537) : [Tactical Bags & Packs](https://www.amazon.com/s/ref=sr_hi_5?rh=n:3375251,n:10971181011,n:706813011,n:3222111011,n:3222112011,k:backpack&keywords=backpack&ie=UTF8&qid=1480556537) : [Tactical Backpacks](https://www.amazon.com/s/ref=sr_hi_6?rh=n:3375251,n:10971181011,n:706813011,n:3222111011,n:3222112011,n:3222113011,k:backpack&keywords=backpack&ie=UTF8&qid=1480556537) :

["backpack"](https://www.amazon.com/s/javascript:void(0))

**Experiment 2: Recheck Clothing , Shoes & Jewelry: Luggage & Travel Gear**

## 1-48 of 605,873 results for [Clothing, Shoes & Jewelry](https://www.amazon.com/s/ref=sr_hi_1?rh=n:7141123011,k:backpack&bbn=7141123011&keywords=backpack&ie=UTF8&qid=1480559580&lo=none) : [Luggage & Travel Gear](https://www.amazon.com/s/ref=sr_hi_2?rh=n:7141123011,n:9479199011,k:backpack&bbn=9479199011&keywords=backpack&ie=UTF8&qid=1480559580&lo=none) :

["backpack"](https://www.amazon.com/gp/search/javascript:void(0))

窗体顶端

窗体底端

## 1-48 of 76,097 results for [Clothing, Shoes & Jewelry](https://www.amazon.com/s/ref=sr_hi_1?rh=n:7141123011,k:backpack&bbn=7141123011&keywords=backpack&ie=UTF8&qid=1480559650&lo=none) : [Luggage & Travel Gear](https://www.amazon.com/s/ref=sr_hi_2?rh=n:7141123011,n:9479199011,k:backpack&bbn=9479199011&keywords=backpack&ie=UTF8&qid=1480559650&lo=none) : [Laptop Bags](https://www.amazon.com/s/ref=sr_hi_3?rh=n:7141123011,n:9479199011,n:9971584011,k:backpack&bbn=9971584011&keywords=backpack&ie=UTF8&qid=1480559650&lo=none) :

["backpack"](https://www.amazon.com/gp/search/javascript:void(0))

窗体顶端

窗体底端

## 1-48 of 199,063 results for [Clothing, Shoes & Jewelry](https://www.amazon.com/gp/search/ref=sr_hi_1?rh=n:7141123011,k:backpack&bbn=7141123011&keywords=backpack&ie=UTF8&qid=1480559656&lo=none) : [Luggage & Travel Gear](https://www.amazon.com/gp/search/ref=sr_hi_2?rh=n:7141123011,n:9479199011,k:backpack&bbn=9479199011&keywords=backpack&ie=UTF8&qid=1480559656&lo=none) : [Backpacks](https://www.amazon.com/gp/search/ref=sr_hi_3?rh=n:7141123011,n:9479199011,n:360832011,k:backpack&bbn=360832011&keywords=backpack&ie=UTF8&qid=1480559656&lo=none) :

["backpack"](https://www.amazon.com/s/javascript:void(0))

Summary: backpack isn’t a very good keyword in this senario as there are something like

[Master Lock 1547DCM Backpack Padlock will be found in the search.](https://www.amazon.com/Master-Lock-1547DCM-Backpack-Padlock/dp/B00004SQLR/ref=sr_1_14?s=apparel&ie=UTF8&qid=1480559703&sr=1-14&nodeID=15743971&keywords=backpack" \o "Master Lock 1547DCM Backpack Padlock)

[Daypack would be a very good name. A good/accurate name would be a good start.](https://www.amazon.com/Master-Lock-1547DCM-Backpack-Padlock/dp/B00004SQLR/ref=sr_1_14?s=apparel&ie=UTF8&qid=1480559703&sr=1-14&nodeID=15743971&keywords=backpack" \o "Master Lock 1547DCM Backpack Padlock)

[Experiment 3: Keyword research (Dec 4th, 2016)](https://www.amazon.com/Master-Lock-1547DCM-Backpack-Padlock/dp/B00004SQLR/ref=sr_1_14?s=apparel&ie=UTF8&qid=1480559703&sr=1-14&nodeID=15743971&keywords=backpack" \o "Master Lock 1547DCM Backpack Padlock)

[Goal: Narrow down keywords that are related. Roughtly focusing on 'casual daypack', 'computer or laptop backpack'.](https://www.amazon.com/Master-Lock-1547DCM-Backpack-Padlock/dp/B00004SQLR/ref=sr_1_14?s=apparel&ie=UTF8&qid=1480559703&sr=1-14&nodeID=15743971&keywords=backpack" \o "Master Lock 1547DCM Backpack Padlock)

[Keyword: Daypack (casual daypack, multiday/oneday daypack)](https://www.amazon.com/Master-Lock-1547DCM-Backpack-Padlock/dp/B00004SQLR/ref=sr_1_14?s=apparel&ie=UTF8&qid=1480559703&sr=1-14&nodeID=15743971&keywords=backpack" \o "Master Lock 1547DCM Backpack Padlock)

## [1-16 of 226,430 results for](https://www.amazon.com/Master-Lock-1547DCM-Backpack-Padlock/dp/B00004SQLR/ref=sr_1_14?s=apparel&ie=UTF8&qid=1480559703&sr=1-14&nodeID=15743971&keywords=backpack" \o "Master Lock 1547DCM Backpack Padlock)**["daypack"](https://www.amazon.com/Master-Lock-1547DCM-Backpack-Padlock/dp/B00004SQLR/ref=sr_1_14?s=apparel&ie=UTF8&qid=1480559703&sr=1-14&nodeID=15743971&keywords=backpack" \o "Master Lock 1547DCM Backpack Padlock)**

[Keyword: laptop backpack](https://www.amazon.com/Master-Lock-1547DCM-Backpack-Padlock/dp/B00004SQLR/ref=sr_1_14?s=apparel&ie=UTF8&qid=1480559703&sr=1-14&nodeID=15743971&keywords=backpack" \o "Master Lock 1547DCM Backpack Padlock)

## [1-16 of 402,453 results for](https://www.amazon.com/Master-Lock-1547DCM-Backpack-Padlock/dp/B00004SQLR/ref=sr_1_14?s=apparel&ie=UTF8&qid=1480559703&sr=1-14&nodeID=15743971&keywords=backpack" \o "Master Lock 1547DCM Backpack Padlock)**[New](https://www.amazon.com/gp/search/ref=sr_hi_1?rh=i:aps,p_n_condition-type:6461716011,k:laptop+backpack&keywords=laptop+backpack&ie=UTF8&qid=1480915253)**[:](https://www.amazon.com/Master-Lock-1547DCM-Backpack-Padlock/dp/B00004SQLR/ref=sr_1_14?s=apparel&ie=UTF8&qid=1480559703&sr=1-14&nodeID=15743971&keywords=backpack" \o "Master Lock 1547DCM Backpack Padlock)**["laptop backpack"](https://www.amazon.com/Master-Lock-1547DCM-Backpack-Padlock/dp/B00004SQLR/ref=sr_1_14?s=apparel&ie=UTF8&qid=1480559703&sr=1-14&nodeID=15743971&keywords=backpack" \o "Master Lock 1547DCM Backpack Padlock)**

[URL:](https://www.amazon.com/Master-Lock-1547DCM-Backpack-Padlock/dp/B00004SQLR/ref=sr_1_14?s=apparel&ie=UTF8&qid=1480559703&sr=1-14&nodeID=15743971&keywords=backpack" \o "Master Lock 1547DCM Backpack Padlock)

[https://www.amazon.com/s/ref=sr\_nr\_p\_n\_condition-type\_0?fst=as%3Aoff&rh=i%3Aaps%2Ck%3Alaptop+backpack%2Cp\_n\_condition-type%3A6461716011&keywords=laptop+backpack&ie=UTF8&qid=1480915244&rnid=6461714011](https://www.amazon.com/Master-Lock-1547DCM-Backpack-Padlock/dp/B00004SQLR/ref=sr_1_14?s=apparel&ie=UTF8&qid=1480559703&sr=1-14&nodeID=15743971&keywords=backpack" \o "Master Lock 1547DCM Backpack Padlock)

[Keyword: computer backpack](https://www.amazon.com/Master-Lock-1547DCM-Backpack-Padlock/dp/B00004SQLR/ref=sr_1_14?s=apparel&ie=UTF8&qid=1480559703&sr=1-14&nodeID=15743971&keywords=backpack" \o "Master Lock 1547DCM Backpack Padlock)

## 1-16 of 174,339 results for **[New](https://www.amazon.com/gp/search/ref=sr_hi_1?rh=i:aps,p_n_condition-type:6461716011,k:computer+backpack&sort=review-rank&keywords=computer+backpack&ie=UTF8&qid=1480915222)** : **"computer backpack"**

URL:

<https://www.amazon.com/s/ref=nb_sb_noss_2?url=search-alias%3Daps&field-keywords=computer+backpack&rh=i%3Aaps%2Ck%3Acomputer+backpack>

Experiment 4: Brand research:

Swissgear:

JanSport:

Outdoor master:

AmazonBasics

Experiment 5: Programming

Task: write a program to grab info regarding a given URL.

1. All the brands of a given category of product search, which is based on the given input URL.
2. How to understand Amazon pagination.

5.1 Data again

In all department,

## 1-48 of 2,172,788 results for "backpack"

https://www.amazon.com/s/ref=nb\_sb\_noss\_1?url=search-alias%3Daps&field-keywords=backpack&rh=i%3Aaps%2Ck%3Abackpack

## 1-16 of 406,090 results for "laptop backpack"

https://www.amazon.com/s/ref=nb\_sb\_noss\_1?url=search-alias%3Daps&field-keywords=laptop+backpack&rh=i%3Aaps%2Ck%3Alaptop+backpack

## 1-16 of 291,172 results for "computer backpack"

<https://www.amazon.com/s/ref=nb_sb_noss_1?url=search-alias%3Daps&field-keywords=computer+backpack&rh=i%3Aaps%2Ck%3Acomputer+backpack>

## 1-16 of 743,302 results for "day pack"

<https://www.amazon.com/s/ref=nb_sb_noss_1?url=search-alias%3Daps&field-keywords=day+pack&rh=i%3Aaps%2Ck%3Aday+pack>

5.2 Python framework

Ref:

<http://rawdust.com/amazon/amazon-kindle-price-alerts.htm>

<http://rawdust.com/rotten/rotten-tomatoes-audience-scores.htm>

<http://hackaday.com/2012/12/10/web-scraping-tutorial/>

<http://hackaday.com/2012/06/13/scraping-blogs-for-fun-and-profit/>

<https://www.scrapehero.com/tutorial-how-to-scrape-amazon-product-details-using-python/> (good article to carry on)

<http://blog.datahut.co/tutorial-how-to-scrape-amazon-using-python-scrapy/>

<http://stackoverflow.com/questions/37077489/how-to-prevent-getting-blacklisted-while-scraping-amazon>

<https://scrapinghub.com/crawlera/> (a paid service)

<https://crawlera.com/> (a promissing tool to look at)

<https://github.com/alecxe/scrapy-fake-useragent>

<https://doc.scrapy.org/en/latest/intro/overview.html> (some systematic study)