In [2]:

```python
import requests
import time
import random
from random import randint
import requests
from bs4 import BeautifulSoup
import pandas as pd
import json
import urllib.parse
from time import sleep
```

In [3]:

```python
finaldata = []
pageData = []
```

In [4]:

```python
keywords = ['lego 42121',
            'lego 76160',
            'lego 76191',
            'lego 71372',
            'lego 10941',
            'lego 11013',
            'lego 76383',
            'lego 10951',
            'lego 41936',
            'lego 42123',
            'lego 43191',
            'lego 60287',
            'lego 60291',
            'lego 60304',
            'lego 71736',
            'lego 31115',
            'lego 76901',
            'lego 11001',
            'lego 10872',
            'lego 10920',
            'lego 10915',
            'lego 75551',
            'lego 71742',
            'lego 71360',
            'lego 71368',
            'lego 76165']
```

In [5]:

```python
def getCurrentEpochTime():
    milliseconds = int(round(time.time() * 1000))
    return milliseconds
```

In [6]:

```python
ses = requests.Session()
mmstat = "https://gm.mmstat.com/fsp.1.1"
headers0 = {'user-agent': 'Mozilla/5.0 (Windows NT 6.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/51.0.2704.79 Safari/537.36 Edge/14.14393',
            'accept-language': 'en-GB,en;q=0.5',
            'accept-encoding': 'gzip, deflate, br',
            'content-type': 'text/plain;charset=UTF-8',
            'content-length': '958',
            'origin': 'https://www.lazada.sg',
            'referer': 'https://www.lazada.sg/',
            'te': 'trailers'}
REQUESTBODY = b'{"gmkey":"OTHER","gokey":"c1=24cb9fab896eaeb862cd1e05be46c159&delay=0&hash=&last_pos=0%252C0&msg=Daraz-mm-web%2520%25E9%25A1%25B5%25E9%259D%25A2-%25E9%25AA%258C%2
```

```
5E8%25AF%2581%25E7%25A0%2581&page=https%253A%252F%252Fwww.lazada.sg%252Fcatalog%252F&patc
h_ver=-&pid=punish-page&query=_keyori%253Dss%2526from%253Dinput%2526page%253D1%2526q%253D
lego%252520super%252520heroes%25252076160%2526sort%253Dpriceasc&raw_ua=Mozilla%252F5.0%25
20(Windows%2520NT%25206.0%253B%2520Win64%253B%2520x64)%2520AppleWebKit%252F537.36%2520(KH
TML%252C%2520like%2520Gecko)%2520Chrome%252F51.0.2704.79%2520Safari%252F537.36%2520Edge%2
52F14.14393&referrer=&rel=&scr=1920x1080&spm_a=&spm_b=&title=&tracker_ver=4.0.0&type=11&u
a=Mozilla%252F5.0%2520(Windows%2520NT%25206.0%253B%2520Win64%253B%2520x64)%2520AppleWebKi
t%252F537.36%2520(KHTML%252C%2520like%2520Gecko)%2520Chrome%252F51.0.2704.79%2520Safari%2
52F537.36%2520Edge%252F14.14393&uid=24cb9fab896eaeb862cd1e05be46c159","logtype":"2"}'
res0 = ses.post(mmstat, headers=headers0, data=REQUESTBODY)
# print(res0.headers)
sca = res0.cookies.get('sca')
```

In [7]:

```
url1 = 'https://sg.mmstat.com/v.gif?logtype=1&title=Sorry%2C%20we%20have%20detected%20unu
sual%20traffic%20from%20your%20network.&pre=&scr=1920x1080&_p_url=https%3A%2F%2Fwww.lazad
a.sg%2Fcatalog%2F%3F_keyori%3Dss%26from%3Dinput%26page%3D1%26q%3Dlego%2Bsuper%2Bheroes%2B
76160%26sort%3Dpriceasc&spm-cnt=0.0.0.0.12ea720bk56Fp8&category=&uidaplus=&aplus&yunid=&&
trid=0b1195ac16242090565304668e18a4&asid=AQAAACgds9gAG8WOQAAAAB6nRh1hY3K2Q==&p=1&o=winVi
sta&b=edge14&s=1920x1080&w=edge&ism=pc&cache=f1950f8&lver=8.15.6&jsver=aplus_std&pver=0.7
.11&ps_i=AtvbWCF0BFxy5LNEYujErjyi9S0vs0YE&pc_i=dd1LzJIaYkuiQ2qD4w76tNGWBDqdu383&_p_ref=&_
p_usertype=new&utm_channel=NA&ab_cookie=&_p_meta_desc=&_p_meta_robots=&_p_canonical=&tag=
0&stag=-2&lstag=-1&_slog=0'
headers0.update({"cookie": sca})
aptResp = ses.get(url1, headers=headers0)
atpsida = aptResp.cookies.get('atpsida')
cna = aptResp.cookies.get('cna')
```

In [8]:

```
apt2_url = 'https://sg.mmstat.com/v.gif?logtype=1&title=lego%20super%20heroes%2076160%20-
%20Buy%20lego%20super%20heroes%2076160%20at%20Best%20Price%20in%20Singapore%20%7C%20www.l
azada.sg&pre=https%3A%2F%2Fwww.lazada.sg%2Fcatalog%2F%3F_keyori%3Dss%26from%3Dinput%26pag
e%3D1%26q%3Dlego%2Bsuper%2Bheroes%2B76160%26sort%3Dpriceasc&scr=1920x1080&_p_url=https%3A
%2F%2Fwww.lazada.sg%2Fcatalog%2F%3F_keyori%3Dss%26from%3Dinput%26page%3D1%26q%3Dlego%2Bsu
per%2Bheroes%2B76160%26sort%3Dpriceasc&cna='+cna + \
    '&spm-cnt=a2o42.searchlist.0.0.12ea5675du9NP3&cfgver=1.0&aplus&asid=AQAAAA67xdgHA3hZ
AAAAAcxAAg7RzJQg==&p=1&o=winVista&b=edge14&s=1920x1080&w=edge&ism=pc&cache=ead245&lver=8
.15.6&jsver=aplus_int&pver=0.7.11&ps_i=AtvbWCF0BFxy5LNEYujErjyi9S0vs0YE&pc_i=dd1LzJIaYkui
Q2qD4w76tNGWBDqdu383&lzd_pg_type=search&_p_lang=en&_p_ref=&lzd_layout=desktop&_s_engine=H
A3&_p_usertype=new&_s_bucket_id=v0&_s_reqNo=30020a5d0d3952278b4f0b68ed0aa250&_s_resultNr=
7&_s_internal_term=lego%20super%20heroes%2076160&_s_internal_type=Search%20Results&_s_fil
ters=&utm_channel=NA&undefined=undefined&ab_cookie=&_p_meta_desc=lego%20super%20heroes%20
76160%20Singapore%20-%20Shop%20for%20best%20lego%20super%20heroes%2076160%20online%20at%2
0www.lazada.sg&_p_meta_robots=index%2Cfollow&_p_canonical=https%3A%2F%2Fwww.lazada.sg%2Fc
atalog%2F&_hng=SG%257Cen-SG%257CSGD%257C702&tag=1&stag=-1&lstag=-1&_slog=0'
headers0.update({"cookie": "sca="+sca+";"+"atpsida="+atpsida+";"})
apt2Res = ses.get(apt2_url, headers=headers0)
```

In [9]:

```
x5sec_url = '''https://www.lazada.sg/catalog/_____tmd_____/slide?slidedata=%7B%22a%22%3A%
22X82Y__be31bf05f5bc16c4a763907b48e1c0af%22%2C%22t%22%3A%2224cb9fab896eaeb862cd1e05be46c1
59%22%2C%22n%22%3A%22140%23aNrDwv1RzzFcYzo2LxXbwpN8s7a7F7PN6mbFvL7y%2F9YTnb4nX7k0elKp%2Bu
1FXWt68W8PqD7E04hGOomnZ%2BODnZO1DCJqlbzxgegh%2BDrbzzcX3OaIlpTzzPzbVXlqlbrxbhUobpJXzFzY228
%2BlpYAzMnDFaGLMZ2aMX4tjY1yIqph8Vr%2BlCpg0XKK92Q29QqY%2FkIUYgUz8C29yd5i5Vs32FnRHMtVtN8HQh
4kR2ArM580B48Y3fzApuReOQjLN74Csgibm%2FPt9Kzn%2FLdQ5NTei1qy7FVHec60DXN1%2BnZ5FZUJCs94mnY87
1f0fh56H9z6OWS%2BIIhUI1G7SLIS%2FobWtfm8g5zdtAgKidmpUaXbKhEMFnM%2Fu7%2Fj3lgEXsevQgNyYWbq1t
NBI44CSzk8mIq1%2F0vxZvpWe%2B1piJUy1u4eNnrlDY5IOkqHelRMzF73ikWg4t8P9FemUHUxFTigg6S14ZSYM3a
7KJEGjRmkqCHcSFx248wX1lqZ9jG4vBGBQaWhXo9kmcP8UW5%2FnlmG3j8Nq%2Ba3JrzEHoDFoDco4Y6BEYOl9ejE
6dWCBl1W8lIqPGZfBFk0aDkb0e8o2ANIzEk9hGeCnqc26zLbZHbEQrk3uZObJGt0kMvTlYcozLOvUKTMB6RCD8PyI
jVmieikc6poZna2B3EHHg6GZ7CHCtTJETSYuolj%2FxAtsKBBZSRCYh2Hs2O7MnLGbyHBp4apVlQI4nIGsSO8LmIy
RXSWYqMotA%2FW%2BwlQoTqy%2F7E0qi3PzEMw1BAqjoBJCOApJPzQ5UZwkgHW98MoV3homlAoOmDML5ZSII2skFe
9DkkvCr%2FhMoVwMxRwcxY9c31AebB0UWhosCJJnY1ZLU4TzGv4H4pQ4qLfv5OuSgamNFMHv52KixN%2FazfGNHGJ
jeOn%2FoRlCyneE5Qd9%2B8GW1dhIk4e%2BJrVO4%2Bga5KO9kRUMMRxzs5hU1TXmbcHCfzGbs%2FA5Nq0y6Xdkar
%2BdrMLFv8NQjsr9yOO5QL%2FMDGILr4HO5p3BHgAwjmL9wQUyRHhCIS4WDGy6jw0NKNih74V%2BNGNflSO91glcg
IiUnbZmSabCNUmVOOssOGXutq3GRXLIguSE2ULG09iZbMS1IU0GYTp0EMHCcwKsONznPm0W0MCfO6phHvqsdhC%2B
tS5lnNhAHx4QbM3D%22%2C%22p%22%3A%22%7B%5C%22ncSessionID%5C%22%3A%5C%225e701f057423%5C%22
%2C%5C%22umidToken%5C%22%3A%5C%22T2gA4clYee1JZKc_ULNeXoubx4TNYndtv5Tybeb7jw8pXQTqcJ_m3Qek
FAuJZXokAhE%3D%5C%22%7D%22%2C%22scene%22%3A%22register%22%2C%22asyn%22%3A0%2C%22lang%22%3
```

A%22en-gb%22%2C%22v%22%3A1030%7D&x5secdata=5e0c8e1365474455070961b803bd560607b52cabf5960a
fff39b64ce58073f78012dae8a376add8f7d5090538e1e563bcb80a1d11280bfd4955c983649d236c9a29fd30
6cf9530377c982eb362590715eb2bc16b1dbc91ea592f0222d32ec23f1976b91a091e5174a4153ee53f360b26
9783bbae415916f4e376d892cf8ccf5d68422032707df10bffe42dc58e5a993ec3a8710f61b3b110cf4807feb
22670a85af0d5e9efd9d78f0b14f57ce89d43bc26b20b49197390b2a55838aad57f39894b2701c91176ab9378
ab1b6e9fc20e13165dd37aa6138b58f4ee6dfa387d87305091dbdd424f20b7a856f5ca145d5d52a58e87f6675
d10cea8c836ded2ef5e6fa6ef014b5cd3e16cef7ef1bf63dc1b1836cfd60bef24b7d07ed36b5b58fac926c04c
413eb3797839fbf0772110cd4e2ced81c65bebf3b9df46dd6afed6f19989f1494fb2d4c59312a226c44ca7f0d
2b36d15d396b4daa1bd48442c5700e2e892a63dc72832ff90b6a1db80083d777fa3fdd3eac5bf7400509807f0
7e67be6835393290f457efcaf0f68da47fb24ac2d780669346b0dc673bf393fa07750577e3fd8cb1124bff782
4ce5ae2937043eb914afed865b37df553413632bda1176599157ba1015c766642213065164fbfbb56cf48ccfd
368560bec378da3f1b4a07885aba8be5a6e7a473b86131b42a19d61f&v=034986025553421496'''
```
headers2 = {
    'authority': 'www.lazada.sg',
    'cache-control': 'max-age=0',
    'sec-ch-ua': '"Chromium";v="92", " Not A;Brand";v="99", "Google Chrome";v="92"',
    'sec-ch-ua-mobile': '?0',
    'upgrade-insecure-requests': '1',
    'user-agent': 'Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/537.36 (KHTML, like Gecko)
Chrome/92.0.4515.51 Safari/537.36',
    'accept': 'text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/web
p,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.9',
    'sec-fetch-site': 'same-origin',
    'sec-fetch-mode': 'navigate',
    'sec-fetch-user': '?1',
    'sec-fetch-dest': 'document',
    'referer': 'https://www.lazada.sg/catalog/?_keyori=ss&from=input&page=1&q=lego+super+
heroes+76160&sort=priceasc',
    'accept-language': 'en-US,en;q=0.9',

}
```

In [10]:
```
cust_cookie1 = '_uab_collina=162420906464852886455375; t_uid=dd1LzJIaYkuiQ2qD4w76tNGWBDqd
u383; t_sid=AtvbWCF0BFxy5LNEYujErjyi9S0vs0YE; utm_channel=NA; cna=qGRWGaAGK1kCAcXoPfgWqu5
o'
newCookie1 = cust_cookie1+"t_fv="+str(getCurrentEpochTime())+";"+"cna="+cna+";"
headers2.update({"cookie": newCookie1})
res1 = requests.request("GET", x5sec_url, headers=headers2)

x5sec = res1.cookies.get('x5sec')
```

In [11]:
```
csr_url = "https://member.lazada.sg/user/api/getCsrfToken"
res2 = ses.get(csr_url)
tb_token = res2.cookies['_tb_token_']
anon_id = res2.cookies['anon_uid']
lzd_sid = res2.cookies['lzd_sid']

cust_cookie2 = 't_uid=dd1LzJIaYkuiQ2qD4w76tNGWBDqdu383;cna=qGRWGaAGK1kCAcXoPfgWqu5o;hng=S
G|en-SG|SGD|702;client_type=desktop;'
newCookie2 = cust_cookie2+"_tb_token_="+tb_token+";"+"anon_uid="+anon_id+";"+"lzd_sid=" +
\
    lzd_sid+";"+"t_fv="+str(getCurrentEpochTime()) + \
    ";"+"Domain=.lazada.sg; Path=/;"+x5sec


url = "https://www.lazada.sg/catalog/?_keyori=ss&from=input&page=1&q=lego+super+heroes+76
160&sort=priceasc"

payload = {}
headers3 = {
    'authority': 'www.lazada.sg',
    'cache-control': 'max-age=0',
    'sec-ch-ua': '"Chromium";v="92", " Not A;Brand";v="99", "Google Chrome";v="92"',
    'sec-ch-ua-mobile': '?0',
    'upgrade-insecure-requests': '1',
    'user-agent': 'Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/537.36 (KHTML, like Gecko)
Chrome/92.0.4515.51 Safari/537.36',
```

```
        'accept': 'text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/web
p,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.9',
        'sec-fetch-site': 'same-origin',
        'sec-fetch-mode': 'navigate',
        'sec-fetch-user': '?1',
        'sec-fetch-dest': 'document',
        'referer': 'https://www.lazada.sg/catalog/?_keyori=ss&from=input&page=1&q=lego+super+
heroes+76160&sort=priceasc',
        'accept-language': 'en-US,en;q=0.9'

}
headers3.update({"cookie": newCookie2})
```

In [12]:

```python
def getProductsDetails(keywords):
    for keyword in keywords:
        try:
            new_string = urllib.parse.quote_plus(keyword)
            keyword_url ='https://www.lazada.sg/catalog/?q='+str(new_string)

            headers3.update({'referer':keyword_url})
            final_response = requests.request("GET", keyword_url, headers=headers3, data
=payload)
            print("working on Keyword: ",keyword)
            sleep(10)
            # print(final_response.text)
            soup = BeautifulSoup(final_response.content, "html.parser")
            scripts = soup.select("script")
            for script_tag in scripts:
                if "window.pageData" in str(script_tag):
                    pageData = str(script_tag).replace("<script>", "").replace(
                        "</script>", "").replace("window.pageData =", "").rsplit(";", 1)
[0].strip()

                    pageData_json = json.loads(pageData)
                    pageData = pageData_json
                    # print(pageData_json)
                else:
                    pass
            listItems = pageData['mods']["listItems"]
            for item in listItems:
                try:
                    item["originalPriceShow"]
                    originalPrice = item['originalPriceShow']
                except:
                    originalPrice = 0
                try:
                    item["discount"]
                    discount = item["discount"]
                except:
                    discount = 0
                finaldata.append({"Keyword":keyword,"prod_Name": item["name"], "prod_Id"
: item["nid"], "prod_url": item["productUrl"],
                            "image": item["image"], "priceShow": item["priceShow"], "ori
ginalPrice": originalPrice, "discount": discount})
        except:
            raise RuntimeError (f"There has been an error..")
    return
```

In [13]:

```python
getProductsDetails(keywords=keywords)
```

```
working on Keyword:  lego 42121
working on Keyword:  lego 76160
working on Keyword:  lego 76191
working on Keyword:  lego 71372
working on Keyword:  lego 10941
working on Keyword:  lego 11013
working on Keyword:  lego 76383
working on Keyword:  lego 10951
working on Keyword:  lego 41936
```

```
working on Keyword:  lego 42123
working on Keyword:  lego 43191
working on Keyword:  lego 60287
working on Keyword:  lego 60291
working on Keyword:  lego 60304
working on Keyword:  lego 71736
working on Keyword:  lego 31115
working on Keyword:  lego 76901
working on Keyword:  lego 11001
working on Keyword:  lego 10872
working on Keyword:  lego 10920
working on Keyword:  lego 10915
working on Keyword:  lego 75551
working on Keyword:  lego 71742
working on Keyword:  lego 71360
working on Keyword:  lego 71368
working on Keyword:  lego 76165
```

In [14]:

```python
final_df = pd.DataFrame(finaldata)
final_df.to_csv("lazada-sg-products.csv", index=True)
print("We are Done ... ")
```

```
We are Done ...
```