

```
In [1]: # List of words to pair with products
words = ['buy', 'price', 'discount', 'promotion', 'promo', 'shop']

print(words)
```

```
['buy', 'price', 'discount', 'promotion', 'promo', 'shop']
```

## Creating keyword list

```
In [2]: products = ['sofas', 'convertible sofas', 'love seats', 'recliners', 'sofa beds']

# Creating an empty list
keywords_list = []

# Looping through products
for product in products:
    # Looping through words
    for word in words:
        # Append combinations
        keywords_list.append([product, word + ' ' + product])

# View keyword list
from pprint import pprint
pprint(keywords_list)
```

```
[['sofas', 'buy sofas'],
 ['sofas', 'price sofas'],
 ['sofas', 'discount sofas'],
 ['sofas', 'promotion sofas'],
 ['sofas', 'promo sofas'],
 ['sofas', 'shop sofas'],
 ['convertible sofas', 'buy convertible sofas'],
 ['convertible sofas', 'price convertible sofas'],
 ['convertible sofas', 'discount convertible sofas'],
 ['convertible sofas', 'promotion convertible sofas'],
 ['convertible sofas', 'promo convertible sofas'],
 ['convertible sofas', 'shop convertible sofas'],
 ['love seats', 'buy love seats'],
 ['love seats', 'price love seats'],
 ['love seats', 'discount love seats'],
 ['love seats', 'promotion love seats'],
 ['love seats', 'promo love seats'],
 ['love seats', 'shop love seats'],
 ['recliners', 'buy recliners'],
 ['recliners', 'price recliners'],
 ['recliners', 'discount recliners'],
 ['recliners', 'promotion recliners'],
 ['recliners', 'promo recliners'],
 ['recliners', 'shop recliners'],
 ['sofa beds', 'buy sofa beds'],
 ['sofa beds', 'price sofa beds'],
 ['sofa beds', 'discount sofa beds'],
 ['sofa beds', 'promotion sofa beds'],
 ['sofa beds', 'promo sofa beds'],
 ['sofa beds', 'shop sofa beds']]
```

# Converting list of list to dataframe

In [3]:

```
import pandas as pd

# Create a DataFrame from list
keywords_df = pd.DataFrame.from_records(keywords_list)

# Print the keywords DataFrame to explore it
print(keywords_df)
```

	0	1
0	sofas	buy sofas
1	sofas	price sofas
2	sofas	discount sofas
3	sofas	promotion sofas
4	sofas	promo sofas
5	sofas	shop sofas
6	convertible sofas	buy convertible sofas
7	convertible sofas	price convertible sofas
8	convertible sofas	discount convertible sofas
9	convertible sofas	promotion convertible sofas
10	convertible sofas	promo convertible sofas
11	convertible sofas	shop convertible sofas
12	love seats	buy love seats
13	love seats	price love seats
14	love seats	discount love seats
15	love seats	promotion love seats
16	love seats	promo love seats
17	love seats	shop love seats
18	recliners	buy recliners
19	recliners	price recliners
20	recliners	discount recliners
21	recliners	promotion recliners
22	recliners	promo recliners
23	recliners	shop recliners
24	sofa beds	buy sofa beds
25	sofa beds	price sofa beds
26	sofa beds	discount sofa beds
27	sofa beds	promotion sofa beds
28	sofa beds	promo sofa beds
29	sofa beds	shop sofa beds

In [4]:

```
# Renaming the columns of the DataFrame
keywords_df.rename(columns = {0 : 'Ad Group', 1 : 'Keyword'}, inplace = True)
print(keywords_df)
```

	Ad Group	Keyword
0	sofas	buy sofas
1	sofas	price sofas
2	sofas	discount sofas
3	sofas	promotion sofas
4	sofas	promo sofas
5	sofas	shop sofas
6	convertible sofas	buy convertible sofas
7	convertible sofas	price convertible sofas
8	convertible sofas	discount convertible sofas
9	convertible sofas	promotion convertible sofas

10	convertible sofas	promo convertible sofas
11	convertible sofas	shop convertible sofas
12	love seats	buy love seats
13	love seats	price love seats
14	love seats	discount love seats
15	love seats	promotion love seats
16	love seats	promo love seats
17	love seats	shop love seats
18	recliners	buy recliners
19	recliners	price recliners
20	recliners	discount recliners
21	recliners	promotion recliners
22	recliners	promo recliners
23	recliners	shop recliners
24	sofa beds	buy sofa beds
25	sofa beds	price sofa beds
26	sofa beds	discount sofa beds
27	sofa beds	promotion sofa beds
28	sofa beds	promo sofa beds
29	sofa beds	shop sofa beds

In [5]:

```
# Add a campaign column
keywords_df['Campaign'] = 'SEM_Sofas'
pprint(keywords_df)
```

	Ad Group	Keyword	Campaign
0	sofas	buy sofas	SEM_Sofas
1	sofas	price sofas	SEM_Sofas
2	sofas	discount sofas	SEM_Sofas
3	sofas	promotion sofas	SEM_Sofas
4	sofas	promo sofas	SEM_Sofas
5	sofas	shop sofas	SEM_Sofas
6	convertible sofas	buy convertible sofas	SEM_Sofas
7	convertible sofas	price convertible sofas	SEM_Sofas
8	convertible sofas	discount convertible sofas	SEM_Sofas
9	convertible sofas	promotion convertible sofas	SEM_Sofas
10	convertible sofas	promo convertible sofas	SEM_Sofas
11	convertible sofas	shop convertible sofas	SEM_Sofas
12	love seats	buy love seats	SEM_Sofas
13	love seats	price love seats	SEM_Sofas
14	love seats	discount love seats	SEM_Sofas
15	love seats	promotion love seats	SEM_Sofas
16	love seats	promo love seats	SEM_Sofas
17	love seats	shop love seats	SEM_Sofas
18	recliners	buy recliners	SEM_Sofas
19	recliners	price recliners	SEM_Sofas
20	recliners	discount recliners	SEM_Sofas
21	recliners	promotion recliners	SEM_Sofas
22	recliners	promo recliners	SEM_Sofas
23	recliners	shop recliners	SEM_Sofas
24	sofa beds	buy sofa beds	SEM_Sofas
25	sofa beds	price sofa beds	SEM_Sofas
26	sofa beds	discount sofa beds	SEM_Sofas
27	sofa beds	promotion sofa beds	SEM_Sofas
28	sofa beds	promo sofa beds	SEM_Sofas
29	sofa beds	shop sofa beds	SEM_Sofas

In [6]:

```
# Add a criterion type column
keywords_df['Criterion Type'] = 'Exact'
```

```
pprint(keywords_df)
```

	Ad Group	Keyword	Campaign	Criterion	Type
0	sofas	buy sofas	SEM_Sofas		Exact
1	sofas	price sofas	SEM_Sofas		Exact
2	sofas	discount sofas	SEM_Sofas		Exact
3	sofas	promotion sofas	SEM_Sofas		Exact
4	sofas	promo sofas	SEM_Sofas		Exact
5	sofas	shop sofas	SEM_Sofas		Exact
6	convertible sofas	buy convertible sofas	SEM_Sofas		Exact
7	convertible sofas	price convertible sofas	SEM_Sofas		Exact
8	convertible sofas	discount convertible sofas	SEM_Sofas		Exact
9	convertible sofas	promotion convertible sofas	SEM_Sofas		Exact
10	convertible sofas	promo convertible sofas	SEM_Sofas		Exact
11	convertible sofas	shop convertible sofas	SEM_Sofas		Exact
12	love seats	buy love seats	SEM_Sofas		Exact
13	love seats	price love seats	SEM_Sofas		Exact
14	love seats	discount love seats	SEM_Sofas		Exact
15	love seats	promotion love seats	SEM_Sofas		Exact
16	love seats	promo love seats	SEM_Sofas		Exact
17	love seats	shop love seats	SEM_Sofas		Exact
18	recliners	buy recliners	SEM_Sofas		Exact
19	recliners	price recliners	SEM_Sofas		Exact
20	recliners	discount recliners	SEM_Sofas		Exact
21	recliners	promotion recliners	SEM_Sofas		Exact
22	recliners	promo recliners	SEM_Sofas		Exact
23	recliners	shop recliners	SEM_Sofas		Exact
24	sofa beds	buy sofa beds	SEM_Sofas		Exact
25	sofa beds	price sofa beds	SEM_Sofas		Exact
26	sofa beds	discount sofa beds	SEM_Sofas		Exact
27	sofa beds	promotion sofa beds	SEM_Sofas		Exact
28	sofa beds	promo sofa beds	SEM_Sofas		Exact
29	sofa beds	shop sofa beds	SEM_Sofas		Exact

## Joining dataframes to create final and then converting to csv

In [7]:

```
# Make a copy of the keywords DataFrame
keywords_phrase = keywords_df.copy()

# Change criterion type match to phrase
keywords_phrase["Criterion Type"] = 'Phrase'

# Append the DataFrames
keywords_df_final = keywords_df.append(keywords_phrase)

pprint(keywords_df_final)
```

	Ad Group	Keyword	Campaign	Criterion	Type
0	sofas	buy sofas	SEM_Sofas		Exact
1	sofas	price sofas	SEM_Sofas		Exact
2	sofas	discount sofas	SEM_Sofas		Exact
3	sofas	promotion sofas	SEM_Sofas		Exact
4	sofas	promo sofas	SEM_Sofas		Exact
5	sofas	shop sofas	SEM_Sofas		Exact
6	convertible sofas	buy convertible sofas	SEM_Sofas		Exact
7	convertible sofas	price convertible sofas	SEM_Sofas		Exact

8	convertible sofas	discount convertible sofas	SEM_Sofas	Exact
9	convertible sofas	promotion convertible sofas	SEM_Sofas	Exact
10	convertible sofas	promo convertible sofas	SEM_Sofas	Exact
11	convertible sofas	shop convertible sofas	SEM_Sofas	Exact
12	love seats	buy love seats	SEM_Sofas	Exact
13	love seats	price love seats	SEM_Sofas	Exact
14	love seats	discount love seats	SEM_Sofas	Exact
15	love seats	promotion love seats	SEM_Sofas	Exact
16	love seats	promo love seats	SEM_Sofas	Exact
17	love seats	shop love seats	SEM_Sofas	Exact
18	recliners	buy recliners	SEM_Sofas	Exact
19	recliners	price recliners	SEM_Sofas	Exact
20	recliners	discount recliners	SEM_Sofas	Exact
21	recliners	promotion recliners	SEM_Sofas	Exact
22	recliners	promo recliners	SEM_Sofas	Exact
23	recliners	shop recliners	SEM_Sofas	Exact
24	sofa beds	buy sofa beds	SEM_Sofas	Exact
25	sofa beds	price sofa beds	SEM_Sofas	Exact
26	sofa beds	discount sofa beds	SEM_Sofas	Exact
27	sofa beds	promotion sofa beds	SEM_Sofas	Exact
28	sofa beds	promo sofa beds	SEM_Sofas	Exact
29	sofa beds	shop sofa beds	SEM_Sofas	Exact
0	sofas	buy sofas	SEM_Sofas	Phrase
1	sofas	price sofas	SEM_Sofas	Phrase
2	sofas	discount sofas	SEM_Sofas	Phrase
3	sofas	promotion sofas	SEM_Sofas	Phrase
4	sofas	promo sofas	SEM_Sofas	Phrase
5	sofas	shop sofas	SEM_Sofas	Phrase
6	convertible sofas	buy convertible sofas	SEM_Sofas	Phrase
7	convertible sofas	price convertible sofas	SEM_Sofas	Phrase
8	convertible sofas	discount convertible sofas	SEM_Sofas	Phrase
9	convertible sofas	promotion convertible sofas	SEM_Sofas	Phrase
10	convertible sofas	promo convertible sofas	SEM_Sofas	Phrase
11	convertible sofas	shop convertible sofas	SEM_Sofas	Phrase
12	love seats	buy love seats	SEM_Sofas	Phrase
13	love seats	price love seats	SEM_Sofas	Phrase
14	love seats	discount love seats	SEM_Sofas	Phrase
15	love seats	promotion love seats	SEM_Sofas	Phrase
16	love seats	promo love seats	SEM_Sofas	Phrase
17	love seats	shop love seats	SEM_Sofas	Phrase
18	recliners	buy recliners	SEM_Sofas	Phrase
19	recliners	price recliners	SEM_Sofas	Phrase
20	recliners	discount recliners	SEM_Sofas	Phrase
21	recliners	promotion recliners	SEM_Sofas	Phrase
22	recliners	promo recliners	SEM_Sofas	Phrase
23	recliners	shop recliners	SEM_Sofas	Phrase
24	sofa beds	buy sofa beds	SEM_Sofas	Phrase
25	sofa beds	price sofa beds	SEM_Sofas	Phrase
26	sofa beds	discount sofa beds	SEM_Sofas	Phrase
27	sofa beds	promotion sofa beds	SEM_Sofas	Phrase
28	sofa beds	promo sofa beds	SEM_Sofas	Phrase
29	sofa beds	shop sofa beds	SEM_Sofas	Phrase

In [8]:

```
# Save the final keywords to a CSV file
keywords_df_final.to_csv('keywords.csv', index = False)

# View a summary of our campaign work
summary = keywords_df_final.groupby(['Ad Group', 'Criterion Type'])['Keyword'].count()
print(summary)
```

Ad Group	Criterion	Type
convertible sofas	Exact	6
	Phrase	6
love seats	Exact	6
	Phrase	6
recliners	Exact	6
	Phrase	6
sofa beds	Exact	6
	Phrase	6
sofas	Exact	6
	Phrase	6
Name: Keyword, dtype: int64		

In [ ]: