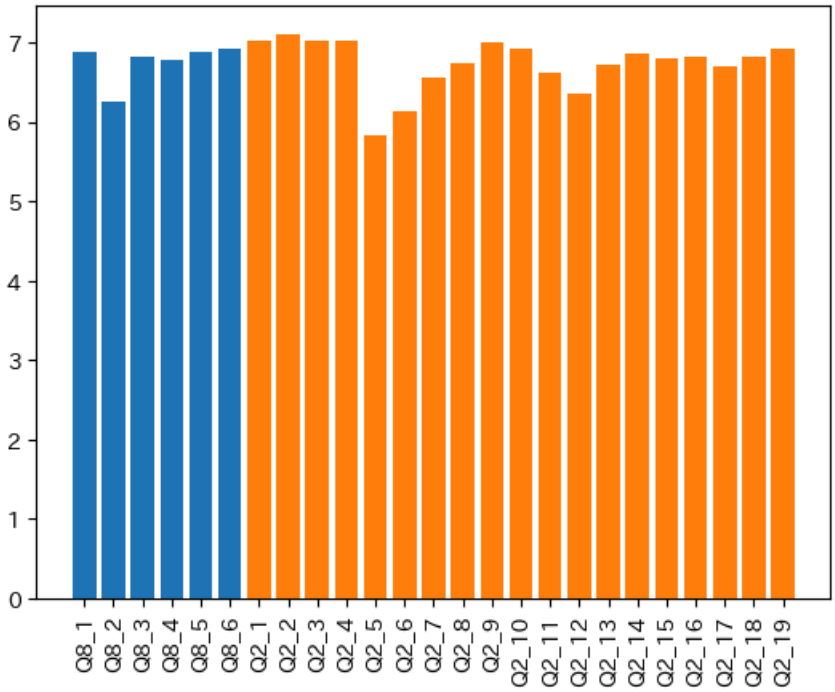
In [ ]:

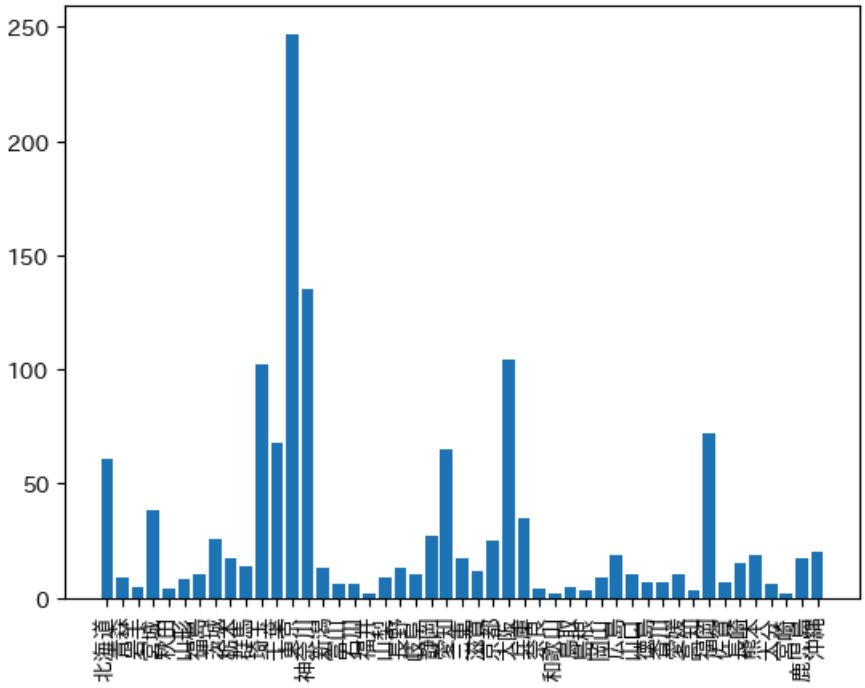
```
"""
 満足度の平均点数調査
 """
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np
import japanize_matplotlib
import seaborn as sns
df_house=pd.read_csv('7-4-18_data.tsv',sep='\t',header=0)
word = df_house.iloc[:,208:228] #検索キーワード("Q25"全て)
data_man = df_house.iloc[:,112:118] #サイトの使いやすさに関する満足度("Q8"全て)
data_site = df_house.iloc[:,[2,240,49,241]] #使用サイトをまとめたもの("SQ2","Q29","Q27",Q30)
df_house = df_house.fillna({"Q29": 29})
data_best = df_house["Q12_2"] #最もよく見たサイト
data_act = df_house.iloc[:, 228:232] #賃貸情報サイトに対する行動("Q26"全て)
manzoku = df_house.iloc[:, 52:71] #表示に対する満足度("Q2"全て)
unite_data = pd.concat([word, data_man,data_site, data_best, data_act, manzoku], axis = 1)
unite_data = unite_data.dropna() #欠損値処理
unite_data = unite_data.astype("int")
satisf = df_house.iloc[:, 112:118]
manzoku = df_house.iloc[:, 52:71]
plt.bar(satisf.columns, satisf.mean())
plt.bar(manzoku.columns, manzoku.mean())
plt.xticks(rotation =90)
```

Out[ ]:
```
([0,
  1,
  2,
  3,
  4,
  5,
  6,
  7,
  8,
  9,
  10,
  11,
  12,
  13,
  14,
  15,
  16,
  17,
  18,
  19,
  20,
  21,
  22,
  23,
  24],
 [Text(0, 0, 'Q8_1'),
  Text(1, 0, 'Q8_2'),
  Text(2, 0, 'Q8_3'),
  Text(3, 0, 'Q8_4'),
  Text(4, 0, 'Q8_5'),
  Text(5, 0, 'Q8_6'),
  Text(6, 0, 'Q2_1'),
  Text(7, 0, 'Q2_2'),
  Text(8, 0, 'Q2_3'),
  Text(9, 0, 'Q2_4'),
  Text(10, 0, 'Q2_5'),
  Text(11, 0, 'Q2_6'),
  Text(12, 0, 'Q2_7'),
  Text(13, 0, 'Q2_8'),
  Text(14, 0, 'Q2_9'),
  Text(15, 0, 'Q2_10'),
  Text(16, 0, 'Q2_11'),
  Text(17, 0, 'Q2_12'),
  Text(18, 0, 'Q2_13'),
  Text(19, 0, 'Q2_14'),
  Text(20, 0, 'Q2_15'),
  Text(21, 0, 'Q2_16'),
  Text(22, 0, 'Q2_17'),
  Text(23, 0, 'Q2_18'),
  Text(24, 0, 'Q2_19')])
```



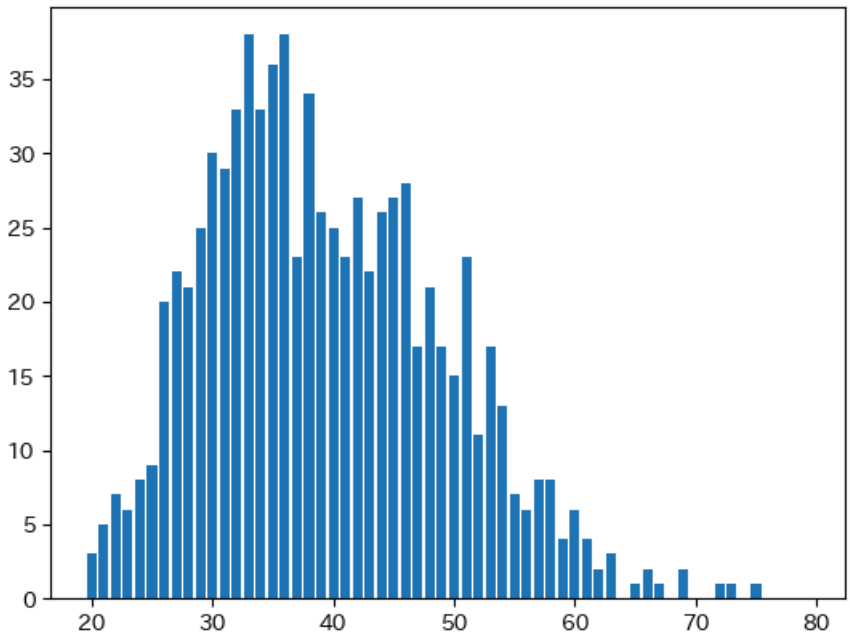

In [ ]:
```
"""
都道府県別回答数調査
"""
lst = []
for i in range(47):
    ken_num = df_house["SQ3"]==i+1 #True,Falseの処理
    df_ken = ken_num.dropna()
    df_house['dummy'] = df_ken.map({True: 1, False: 0}) #True(一致)なら1,False(不一致)なら0の処理
    du_ken = df_house['dummy']
    num = sum(du_ken) #1と0の列データの合計を求める
    lst.append(num) #合計をリストに格納
left = np.array([i+1 for i in range(47)])
height = np.array(lst)
plt.bar(left, height,tick_label = ["北海道","青森","岩手","宮城","秋田","山形","福島"
                                   ,"茨城","栃木","群馬","埼玉","千葉","東京","神奈川"
                                   ,"新潟","富山","石川","福井","山梨","長野","岐阜"
                                   ,"静岡","愛知","三重","滋賀","京都","大阪","兵庫"
                                   ,"奈良","和歌山","鳥取","島根","岡山","広島","山口"
                                   ,"徳島","香川","愛媛","高知","福岡","佐賀","長崎"
                                   ,"熊本","大分","宮崎","鹿児島","沖縄"])
# ラベル名変更
plt.xticks(rotation =90)
```

Out[ ]:
```
(array([ 1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16, 17,
        18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34,
        35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47]),
 [Text(1, 0, '北海道'),
  Text(2, 0, '青森'),
  Text(3, 0, '岩手'),
  Text(4, 0, '宮城'),
  Text(5, 0, '秋田'),
  Text(6, 0, '山形'),
  Text(7, 0, '福島'),
  Text(8, 0, '茨城'),
  Text(9, 0, '栃木'),
  Text(10, 0, '群馬'),
  Text(11, 0, '埼玉'),
  Text(12, 0, '千葉'),
  Text(13, 0, '東京'),
  Text(14, 0, '神奈川'),
  Text(15, 0, '新潟'),
  Text(16, 0, '富山'),
  Text(17, 0, '石川'),
  Text(18, 0, '福井'),
  Text(19, 0, '山梨'),
  Text(20, 0, '長野'),
  Text(21, 0, '岐阜'),
  Text(22, 0, '静岡'),
  Text(23, 0, '愛知'),
  Text(24, 0, '三重'),
  Text(25, 0, '滋賀'),
  Text(26, 0, '京都'),
  Text(27, 0, '大阪'),
  Text(28, 0, '兵庫'),
  Text(29, 0, '奈良'),
  Text(30, 0, '和歌山'),
  Text(31, 0, '鳥取'),
  Text(32, 0, '島根'),
  Text(33, 0, '岡山'),
  Text(34, 0, '広島'),
  Text(35, 0, '山口'),
  Text(36, 0, '徳島'),
  Text(37, 0, '香川'),
  Text(38, 0, '愛媛'),
  Text(39, 0, '高知'),
  Text(40, 0, '福岡'),
  Text(41, 0, '佐賀'),
  Text(42, 0, '長崎'),
  Text(43, 0, '熊本'),
  Text(44, 0, '大分'),
  Text(45, 0, '宮崎'),
  Text(46, 0, '鹿児島'),
  Text(47, 0, '沖縄')])
```



In [ ]:
```
"""
 年齢別回答数調査
 """
lst = []
for i in range(20, 80):
 num_age = unite_data["SQ2"]==i #True,Falseの処理
 df_age = num_age.dropna()
 unite_data['dummy'] = df_age.map({True: 1, False: 0}) #True(一致)なら1,False(不一致)なら0の処理
 du_age = unite_data['dummy']
 num = sum(du_age)#1と0の列データの合計を求める
 lst.append(num) #合計をリストに格納
left = np.array([i for i in range(20, 80)])
height = np.array(lst)
plt.bar(left, height)
```

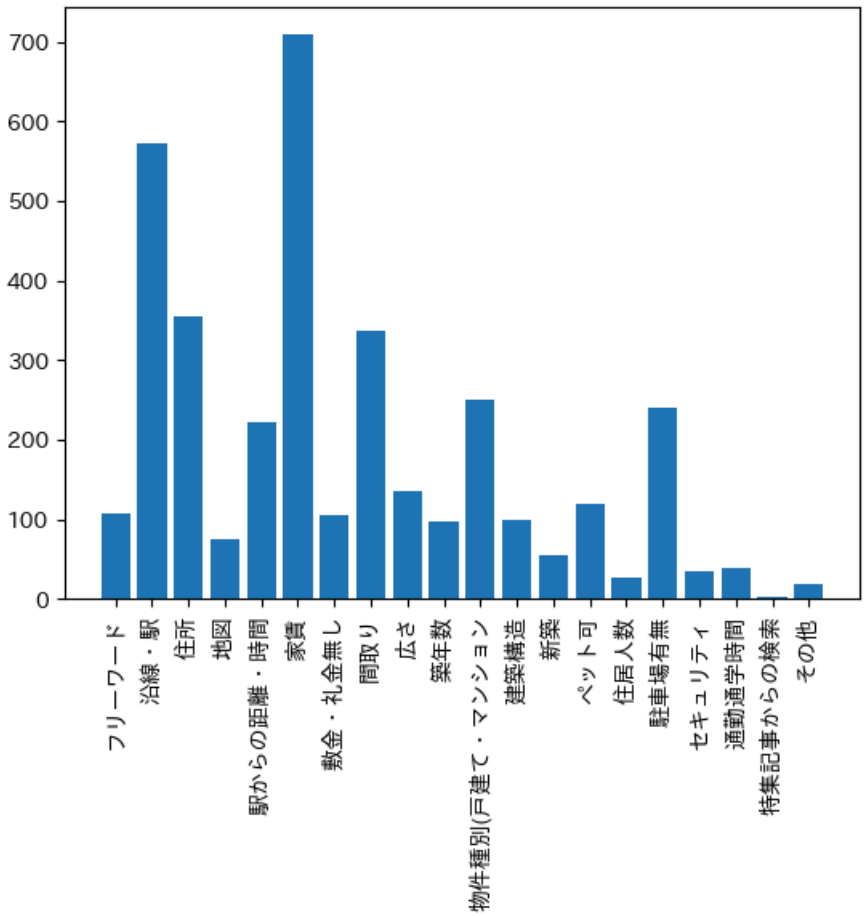
Out[ ]: <BarContainer object of 60 artists>



In [ ]:
```
"""
 フリーワード別回答数調査
 """
lst = []
for i in range(20):
 free_word = df_house[f"Q25[{i+1}]"]==1 #True,Falseの処理
```

```
 df_fre = free_word.dropna()
 df_house['dummy'] = df_fre.map({True: 1, False: 0}) #True(一致)なら1,False(不一致)なら0の処理
 du_fre = df_house['dummy']
 num = sum(du_fre)#1と0の列データの合計を求める
 lst.append(num) #合計をリストに格納
left = np.array([f"Q25[{i+1}]" for i in range(20)])
height = np.array(lst)
plt.bar(left, height,tick_label = ["フリーワード","沿線・駅","住所","地図","駅からの距離・時間","家賃"
 ,"敷金・礼金無し","間取り","広さ","築年数","物件種別(戸建て・マンション"
 ,"建築構造","新築","ペット可","住居人数","駐車場有無","セキュリティ"
 ,"通勤通学時間","特集記事からの検索","その他"])
# ラベル名変更
plt.xticks(rotation =90)
```

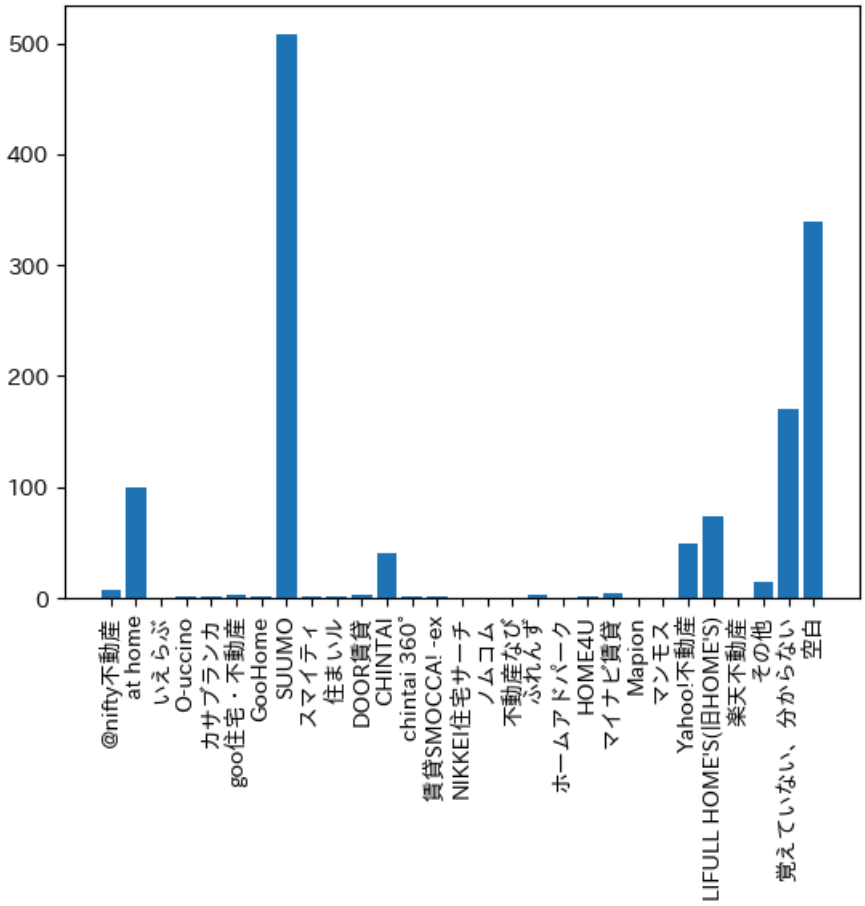
Out[ ]:
```
(array([ 0.,  1.,  2.,  3.,  4.,  5.,  6.,  7.,  8.,  9., 10., 11., 12.,
        13., 14., 15., 16., 17., 18., 19.]),
 [Text(0.0, 0, 'フリーワード'),
  Text(1.0, 0, '沿線・駅'),
  Text(2.0, 0, '住所'),
  Text(3.0, 0, '地図'),
  Text(4.0, 0, '駅からの距離・時間'),
  Text(5.0, 0, '家賃'),
  Text(6.0, 0, '敷金・礼金無し'),
  Text(7.0, 0, '間取り'),
  Text(8.0, 0, '広さ'),
  Text(9.0, 0, '築年数'),
  Text(10.0, 0, '物件種別(戸建て・マンション'),
  Text(11.0, 0, '建築構造'),
  Text(12.0, 0, '新築'),
  Text(13.0, 0, 'ペット可'),
  Text(14.0, 0, '住居人数'),
  Text(15.0, 0, '駐車場有無'),
  Text(16.0, 0, 'セキュリティ'),
  Text(17.0, 0, '通勤通学時間'),
  Text(18.0, 0, '特集記事からの検索'),
  Text(19.0, 0, 'その他')])
```




In [ ]:
```
lst = []
for i in range(29):
    df_sit = df_house["Q29"]==i+1 #True,Falseの処理
```

```
    df_house['dummy'] = df_sit.map({True: 1, False: 0}) #True(一致)なら1,False(不一致)なら0の処理
    du_sit = df_house['dummy']
    num_sit = sum(du_sit) #1と0の列データの合計を求める
    lst.append(num_sit) #合計をリストに格納
left = np.array([i+1 for i in range(29)])
height = np.array(lst)
plt.bar(left, height, tick_label = ["@nifty不動産","at home","いえらぶ","O-uccino","カサブランカ"
                                    ,"goo住宅・不動産","GooHome","SUUMO","スマイティ","住まいル"
                                    ,"DOOR賃貸","CHINTAI","chintai 360°","賃貸SMOCCA! -ex",
                                    "NIKKEI住宅サーチ","ノムコム","不動産なび","ふれんず",
                                    "ホームアドパーク","HOME4U","マイナビ賃貸","Mapion","マンモス"
                                    ,"Yahoo!不動産","LIFULL HOME'S(旧HOME'S)","楽天不動産","その他"
                                    ,"覚えていない、分からない","空白"])
plt.xticks(rotation =90)
```

Out[ ]:
```
(array([ 1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16, 17,
        18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29]),
 [Text(1, 0, '@nifty不動産'),
  Text(2, 0, 'at home'),
  Text(3, 0, 'いえらぶ'),
  Text(4, 0, 'O-uccino'),
  Text(5, 0, 'カサブランカ'),
  Text(6, 0, 'goo住宅・不動産'),
  Text(7, 0, 'GooHome'),
  Text(8, 0, 'SUUMO'),
  Text(9, 0, 'スマイティ'),
  Text(10, 0, '住まいル'),
  Text(11, 0, 'DOOR賃貸'),
  Text(12, 0, 'CHINTAI'),
  Text(13, 0, 'chintai 360°'),
  Text(14, 0, '賃貸SMOCCA! -ex'),
  Text(15, 0, 'NIKKEI住宅サーチ'),
  Text(16, 0, 'ノムコム'),
  Text(17, 0, '不動産なび'),
  Text(18, 0, 'ふれんず'),
  Text(19, 0, 'ホームアドパーク'),
  Text(20, 0, 'HOME4U'),
  Text(21, 0, 'マイナビ賃貸'),
  Text(22, 0, 'Mapion'),
  Text(23, 0, 'マンモス'),
  Text(24, 0, 'Yahoo!不動産'),
  Text(25, 0, "LIFULL HOME'S(旧HOME'S)"),
  Text(26, 0, '楽天不動産'),
  Text(27, 0, 'その他'),
  Text(28, 0, '覚えていない、分からない'),
  Text(29, 0, '空白')])
```




In [ ]:
```
lst = []
for i in range(28):
    sit_num = df_house["SQ7"]==i+1 #True,Falseの処理
    df_sit = sit_num.dropna()
    df_house['dummy'] = df_sit.map({True: 1, False: 0}) #True(一致)なら1,False(不一致)なら0の処理
    du_sit = df_house['dummy']
    num_sit = sum(du_sit) #1と0の列データの合計を求める
    lst.append(num_sit) #合計をリストに格納
left = np.array([i+1 for i in range(28)])
height = np.array(lst)
plt.bar(left, height, tick_label = ["@nifty不動産","at home","いえらぶ","O-uccino","カサブランカ"
                                    ,"goo住宅・不動産","GooHome","SUUMO","スマイティ","住まいル"
                                    ,"DOOR賃貸","CHINTAI","chintai 360°","賃貸SMOCCA! -ex",
                                    "NIKKEI住宅サーチ","ノムコム","不動産なび","ふれんず",
                                    "ホームアドパーク","HOME4U","マイナビ賃貸","Mapion","マンモス"
                                    ,"Yahoo!不動産","LIFULL HOME'S(旧HOME'S)","楽天不動産","その他"
                                    ,"覚えていない、分からない"])
plt.xticks(rotation =90)
```

```
Out[ ]: (array([ 1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16, 17,
                18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28]),
         [Text(1, 0, '@nifty不動産'),
          Text(2, 0, 'at home'),
          Text(3, 0, 'いえらぶ'),
          Text(4, 0, 'O-uccino'),
          Text(5, 0, 'カサブランカ'),
          Text(6, 0, 'goo住宅・不動産'),
          Text(7, 0, 'GooHome'),
          Text(8, 0, 'SUUMO'),
          Text(9, 0, 'スマイティ'),
          Text(10, 0, '住まいル'),
          Text(11, 0, 'DOOR賃貸'),
          Text(12, 0, 'CHINTAI'),
          Text(13, 0, 'chintai 360°'),
          Text(14, 0, '賃貸SMOCCA! -ex'),
          Text(15, 0, 'NIKKEI住宅サーチ'),
          Text(16, 0, 'ノムコム'),
          Text(17, 0, '不動産なび'),
          Text(18, 0, 'ふれんず'),
          Text(19, 0, 'ホームアドパーク'),
          Text(20, 0, 'HOME4U'),
          Text(21, 0, 'マイナビ賃貸'),
          Text(22, 0, 'Mapion'),
          Text(23, 0, 'マンモス'),
          Text(24, 0, 'Yahoo!不動産'),
          Text(25, 0, "LIFULL HOME'S(旧HOME'S)"),
          Text(26, 0, '楽天不動産'),
          Text(27, 0, 'その他'),
          Text(28, 0, '覚えていない、分からない')])
```