Python programming and practice

Gift Recommending system on MBTI Types

Progress Report : 2

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1. Introduction

1) Background

Recently, the MBTI personality type test has gained popularity and is being utilized in various fields. Additionally, there is a growing trend in the use of online gift-giving features.

2) Project goal

By recommending gifts based on MBTI personality types, the program offers convenience to its users, fulfills practicality for gift recipients, and additionally brings advertising benefits to the suppliers.

3) Differences from existing programs

The current gift recommendation system relies solely on preferences based on age and gender, which may not always align with the actual preferences of individuals. To address this limitation, a system has been developed to recommend gifts based on MBTI personality types. Furthermore, users can input their MBTI and preferred gifts to gather data, making the system more tailored to individual needs and preferences.

2. Functional Requirement

1) Gift recommendations based on MBTI types & category

- At first, the user inputs the gift category. Depending on the entered category, extract the most frequent item from the preferred gifts data files (4 files of each MBTI position E/I, S/N, F/T, P/J). This item becomes the recommended gift.

2) Enter favorite gift and MBTI type

- When a user inputs their preferred gift and their own MBTI into the program, it is saved in the preferred gift data list. This helps increase the amount of data, thus improving the program's performance.

3) Providing a gift card message

- Based on the category of the gift, the program randomly generates a gift card message. This function provides convenience to the user.

3. Progress

1) Functional Requirements

(1) Gift recommendations based on MBTI types & category

- Input the MBTI and the category.

- Output the recommending gift which is the most frequently preferred.

- I applied File IO, Function, Condition, Loop(while & for), List, Set, Dictionary, Class and Module based on search-engine project.

```
def  output_gift(self):
    fp_e = open("present/present_e.txt", "r+", encoding="utf8")
    fp_i = open("present/present_i.txt", "r+", encoding="utf8")
    fp_n = open("present/present_n.txt", "r+", encoding="utf8")
    fp_s = open("present/present_s.txt", "r+", encoding="utf8")
    fp_f = open("present/present_f.txt", "r+", encoding="utf8")
    fp_t = open("present/present_t.txt", "r+", encoding="utf8")
    fp_p = open("present/present_p.txt", "r+", encoding="utf8")
    fp_j = open("present/present_j.txt", "r+", encoding="utf8")

    mbti_ = self.enter_mbti()
    gift_category = input("Enter the category --> ")
    gifts = []

    if mbti_[0] == 'e':
        gifts += fp_e.readlines()
    else:
        gifts += fp_i.readlines()
    if mbti_[1] == 'n':
        gifts += fp_n.readlines()
    else:
        gifts += fp_s.readlines()
    if mbti_[2] == 'f':
        gifts += fp_f.readlines()
    else:
        gifts += fp_t.readlines()
    if mbti_[3] == 'p':
        gifts += fp_p.readlines()
    else:
        gifts += fp_j.readlines()
```

```
    category_selected_gifts = []
    for gift in gifts:
        tokens = gift.strip().split(",")
        if tokens[0] == gift_category:
            category_selected_gifts.append(tokens[1])

    freq = dict()
    category_selected_gifts_set = set(category_selected_gifts)
    for selected_gift in category_selected_gifts_set:
        freq[selected_gift] = category_selected_gifts.count(selected_gift)
    sorted_freq = sorted(freq.items(), key = operator.itemgetter(1))
    # printing for debugging
    # print(sorted_freq)
    # print(sorted_freq[-3:])
    recommended_gift = random.choice(sorted_freq[-3:])[0]
    return recommended_gift
```

```
def enter_mbti(self):
    while True:
        mbti = input("Enter the mbti --> ").lower()
        if len(mbti) != 4:
            print("Incorrect input !! MBTI consists of four letters.")
        elif mbti[0] != 'i' and mbti[0] != 'e':
            print("Incorrect input !! MBTI starts with 'i' or 'e'.")
        elif mbti[1] != 's' and mbti[1] != 'n':
            print("Incorrect input !! MBTI's second letter is 's' or 'n'.")
        elif mbti[2] != 'f' and mbti[2] != 't':
            print("Incorrect input !! MBTI's third letter is 'f' or 't'.")
        elif mbti[3] != 'p' and mbti[3] != 'j':
            print("Incorrect input !! MBTI's last letter is 'p' or 'j'.")
        else:
            return mbti
```

(2) Enter favorite gift and MBTI type

- Input the user's MBTI and a favorite gift with its category

- Add pairs of category and gift data within the dataset that match the entered MBTI.

- I applied File Out system, Function, Condition.

```
def input_gift(self):
    fp_e_w = open("present/present_e.txt", "a", encoding="utf8")
    fp_i_w = open("present/present_i.txt", "a", encoding="utf8")
    fp_n_w = open("present/present_n.txt", "a", encoding="utf8")
    fp_s_w = open("present/present_s.txt", "a", encoding="utf8")
    fp_f_w = open("present/present_f.txt", "a", encoding="utf8")
    fp_t_w = open("present/present_t.txt", "a", encoding="utf8")
    fp_p_w = open("present/present_p.txt", "a", encoding="utf8")
    fp_j_w = open("present/present_j.txt", "a", encoding="utf8")

    mbti_ = self.enter_mbti()
    preferred_gift = input("Enter your favorite gift with the category (category,gift) --> ")
    line = "\n" + preferred_gift
```

```
    if mbti_[0] == 'e':
        fp_e_w.write(line)
    else:
        fp_i_w.write(line)
    if mbti_[1] == 'n':
        fp_n_w.write(line)
    else:
        fp_s_w.write(line)
    if mbti_[2] == 'f':
        fp_f_w.write(line)
    else:
        fp_t_w.write(line)
    if mbti_[3] == 'p':
        fp_p_w.write(line)
    else:
        fp_j_w.write(line)

    fp_e_w.close()
    fp_i_w.close()
    fp_n_w.close()
    fp_s_w.close()
    fp_f_w.close()
    fp_t_w.close()
    fp_p_w.close()
    fp_j_w.close()
```

2) Test Results

(1) Gift recommendations based on MBTI types & category

- When the user inputs their MBTI and gift category, the program outputs a recommended gift. The recommended gift is randomly selected from the top 3 gifts with the highest frequency in the dataset that matches the input criteria.

```
This is a gift recommending program depending on mbti.

category : 도서 패션 상품권 코스메틱 전자기기 문구 리빙 건강
---------choose option---------
1. Get gift recommendation
2. Enter the desired gift
3. Get a gift card message
4. Quit
enter the number of your option --> 1
Enter the mbti --> istj
Enter the category --> 문구
recommended gift is 만년필
```

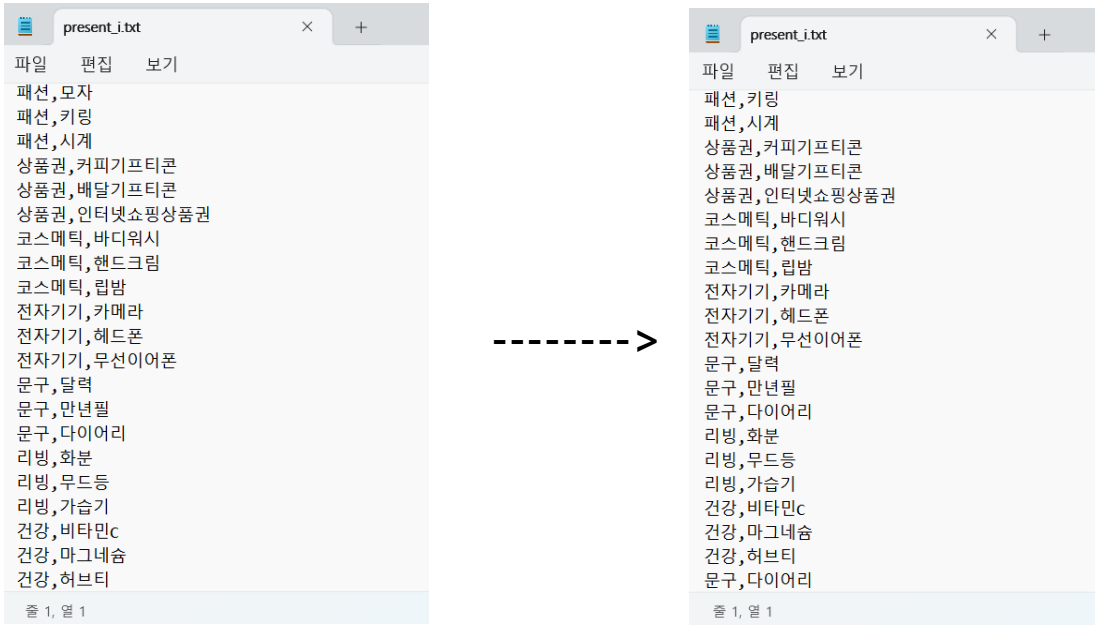
code for debugging >>

```
This is a gift recommending program depending on mbti.

category : 도서 패션 상품권 코스메틱 전자기기 문구 리빙 건강
---------choose option---------
1. Get gift recommendation
2. Enter the desired gift
3. Get a gift card message
4. Quit
enter the number of your option --> 1
Enter the mbti --> istj
Enter the category --> 문구
[('다이어리', 2), ('만년필', 3), ('달력', 4)]
[('다이어리', 2), ('만년필', 3), ('달력', 4)]
recommended gift is 달력
```

(2) Enter favorite gift and MBTI type

- By using out file pointer, add the entered category and gift data to the data files corresponding to the inputted MBTI. Utilize the write() function for this task, and include "₩n" for line breaks.




```
This is a gift recommending program depending on mbti.

category : 도서 패션 상품권 코스메틱 전자기기 문구 리빙 건강
---------choose option---------
1. Get gift recommendation
2. Enter the desired gift
3. Get a gift card message
4. Quit
enter the number of your option --> 2
Enter the mbti --> infp
Enter your favorite gift with the category (category,gift) --> 문구,다이어리
```

4. Changes in Comparison to the Plan

1) Change into class form

- Previously, defined multiple functions without binding.

- Now, I create a class and define functions within it.

- Caused a decrease in code organization

5. Schedule

업무	11/3	11/10	11/17	11/24	12/1	12/8	12/15	12/22
Proposal	finish							
data & Frame		finish						
function 1				finish				
function 2					finish			
Function 3						progressing		
Code inspection							---------->	
Final report							---------->	