

Python Programing and Practice

Goal Management Planner Program Development Report

Final Report

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1. Introduction

1) Background

It is very difficult to manage yourself in a rapidly changing world. People write a to-do list or planner to manage themselves. But if they don't achieve what they have to do, they have to revise their plans, and it's very troublesome to do it. Many people get tired of the process and stop planning. If a program helps revise a plan, it will prevent people from giving up planning.

2) Project goal

It aims to help users achieve their goals more easily by developing planner programs with accumulation, delay, and recording capabilities.

3) Differences from existing programs

Compared to the existing programs, our programs focused on goal management. We focused on the ability to manage goals, such as recording, accumulating, and delaying achievements if not achieved.

2. Functional Requirement

Function 1) Open a page, and then, open next page

- When you enter a specific command, update and open that page.
- When the command is 'esc', save the current data

Function 2) Open a Today's Goal Page

- Open today's goal page.

Function 3) Open a Main Goal Page

- open main goal page.

Function 4) Date-based move to and output a goal list

- When you enter a specific command, go to that list and output the list.

Detail 1) Go to and output today's list (default)

- Enter 'today' or today's date (default: this month) to output a to-do list for today.

Detail 2) Move to and output specific date lists

- Enter a specific date (default: this month) or "tomorrow" or "the day after tomorrow" to output a to-do list for that date.

Detail 3) Move to and output to the weekly list

- Description: Enter "This Week", "Next Week", or "First Week", "Second Week", etc. (default: This month) to output a to-do list for that week.

Detail 4) Move to and output to next

- Enter ' ' (space) to output a to-do list for the next week of the week list or the next date of the date list.

Function 5) Move and output to goal-based list

Detail 1) Goals search-based moves and outputs

- When you enter a word or sentence, print out the number with the goals containing the word or sentence and follow Detailed function

Detail 2) Move to and output to the higher/sub goal list

- When you enter the goal number, print out a list of sub goals.
- If there is no sub-target of that goal, it creates and outputs a sub-goal list window.
- If there is one sub goal, press enter to output a list of sub goals.
- If you enter 0, it outputs a list of the top goals.

Function 6) input a new goal

- If you enter '+', create a new goal input window.
- Year information is not entered in to-do information.
- It is possible to create overlapping subgoals.

Detail 1) input a new goal (default)

- If you enter '+', by default, create input window at the present window

and add the goal in the list.

Detail 2) input a new date-based goal

- If you enter '+' and type the goal with the date, a new goal is added to the goal list of the date.

Function 7) delete a goal

- If you enter '-' at the desired location of the list, start the Delete Goals window.- - If you enter the goal number, print out a window to confirm deletion of that goal. And delete the goal.

- Enter '-' again to exit(cancel) the goal delete window.

변경 :- 에서 -1로 (사유 : 구현이 이미 되어있음)

Function 8) Setting

8-1) Higher Goal Settings

8-2) Date, Term Settings

8-3) Repeat Settings

- You can make Repeated settings of various functions.

Detail 1) Select a repetition period

- Set up what to do over and over again every few days and weeks.

Detail 2) Select a repetition the day of the week

- Set what days of the week you want to repeat what you want to do.

Detail 3) Repeat when you achieve your goals

- Set whether to repeat this again after achieving the goal.

8-4) Goal Management(Important)

- You can quantify goals and record and manage them to achieve them.

Detail 1) Set goal Achievement

- Select 'Set goal Achievement' to set the final achievement of that goal.

Detail 2) Record goal Achievement

- If you select 'record' from that goal, you can record the amount of goals achieved today.

Detail 3) Accumulate goal Achievement

- If you record the amount of goals achieved today, it accumulates in the total amount achieved.

Detail 4) Connect and Delay goal Achievement

- Selecting 'delay' in that goal delays the targeted amount of linked goals in the future together. This prevents you from having to modify other goals one by one.

Function 9) Help

- When you enter 'help', print out a window that explain the commands used in this program.

3. Implementation

Function : Open main goal page, and move to the sub goal page, and add or delete a goal.

Function 1) Open a page, and the, open next page

- input : main goal page
- output : open the last page in 'opened pages' that contains pages which the user opened. And terminate the program.
- explanation :
 1. At the start of the program, open the main goal page and add it to the 'opened pages'.
 2. Update the last page of 'opened pages' using constructor, and open the page via '.open_page()'.
 3. In the open_page(), the pages of 'opened pages' are changed according to the user's input.

4. When the user enters 'esc', the program is terminated after storing the target data in a file.

5. If the user does not end the program, repeat steps 2 and 3.

- Apply what I learned: using module, class, list method(append), list indexing, infinite loop(while), len function, conditional, control statement, constructor

- Code ScreenShot

Main.py

```
main.py > ...
1  from goal_py.class_goal import *
2  from page_py.class_page import *
3
4
5  if __name__ == '__main__':
6      # 프로그램 시작 : 첫번째 페이지를 열린 페이지에 추가
7      page = Page()
8      start_page = MainGoalPage()
9      page.opened_pages.append(start_page)
10     # 열려있는 페이지의 내용을 업데이트 후, 마지막 페이지를 실행, 반복
11     while True:
12         last_index = len(page.opened_pages) - 1
13         next_page = page.opened_pages[last_index]
14         next_page.update_page()
15         terminate = next_page.open_page()
16         # 종료 메시지 입력시 현재까지 수정된 데이터 저장 후 프로그램 종료
17         if terminate == True:
18             write_data_file(GoalField().data)
19             write_contents_file(GoalField().contents)
20             break
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```

- Code ScreenShot

```
class DatePage(Page):
    def __init__(self, date = Date()):
        # 입력 날짜 저장
        self.date = date
        # 제목 = 월, 일, 요일
        date_title = str(date.month) + '월' + str(date.day) + '일' + date.get_weekday()
        # 해당 날짜의 목표들 저장
        self.goal_list = [goal for goal in GoalField().data \
                           if goal.check_date_in_term(date)]
        goal_content = [goal.get_content() for goal in self.goal_list]
        # 초기화
        super().__init__(date_title, goal_content)
        self.basic_menu[2] = 'enter. 다음 날짜'
```

```
def open_page(self):
    self.print_page()
    command = input()

    # 기본 메뉴 선택시
    if(command == ''):
        next_date = self.date.get_next_date()
        next_page = DatePage(next_date)
        self.in_opened_pages(next_page)
    elif(command == '+'):
        next_page = AddDatePage(self.goal)
        self.in_opened_pages(next_page)
    elif(command == '-'):
        next_page = DeleteDatePage(self.goal)
        self.in_opened_pages(next_page)
    # 0 입력시 오늘 목표 페이지 생성
    elif(command == '0'):
        next_page = TodaysGoalPage()
        self.in_opened_pages(next_page)
    elif(command == '-1'):
        self.delete_page()
    # esc 입력시 프로그램 종료 값 반환
    elif(command == 'esc'):
        terminate = True
        return terminate
    else:
        try:
            int_command = int(command)
        except:
            date = extract_text_and_date(command)
            if(date != Date()):
                next_page = DatePage(date)
                self.in_opened_pages(next_page)
                return False
            else:
                if (0 < int_command and int_command <= len(self.menu_list)):
                    selected_goal = self.goal_list[int_command - 1]
                    next_page = GoalPage(selected_goal)
                    self.in_opened_pages(next_page)
                    return False
                print('잘못 입력하였습니다.')
        terminate = False
    return terminate
```

```

class TodayGoalPage(DatePage):
    def __init__(self):
        super().__init__(Today())
        title = '오늘 목표'
        self.basic_menu[2] = 'enter. 내일'
        self.basic_menu[4] = '0. 메인 목표로 전환'
    def update_page(self):
        self.__init__()
    def open_page(self):
        self.print_page()
        command = input()

        # 기본 메뉴 선택시
        if(command == ''):
            next_date = self.date.get_next_date()
            next_page = DatePage(next_date)
            self.in_opened_pages(next_page)
        elif(command == '+'):
            next_page = AddDatePage(self.date) # 날짜 입력
            self.in_opened_pages(next_page)
        elif(command == '-'):
            next_page = DeleteDatePage(self.date) # 날짜 입력
            self.in_opened_pages(next_page)
        # 0 입력시 오늘 목표 페이지 생성
        elif(command == '0'):
            next_page = MainGoalPage()
            self.in_opened_pages(next_page)
        elif(command == '-1'):
            self.delete_page()
        # esc 입력시 프로그램 종료 값 반환
        elif(command == 'esc'):
            terminate = True
            return terminate
        else:
            try:
                int_command = int(command)
            except:
                date = extract_text_and_date(command)
                if(date != Date()):
                    next_page = DatePage(date)
                    self.in_opened_pages(next_page)
                    return False
            else:
                if (0 < int_command and int_command <= len(self.menu_list)):
                    selected_goal = self.goal_list[int_command - 1]
                    next_page = GoalPage(selected_goal)
                    self.in_opened_pages(next_page)
                    return False
                print('잘못 입력하셨습니다.')
            terminate = False
        return terminate

```

Function 3, 5) Move to and output to the higher/sub goal list

- input : goal data field, goal content field, goal to open

- output : print goal page, add next page to 'opened pages' or back to previous page or return terminate message(true).

- explanation

1. Initialize the goal, create sub goal list, and sub goal content list with input goal.
2. print the basic menu, and sub goal menu. And then input a command from the user.
3. Add a page according to the input in 'opened pages'. Then, 'main.py' will update the page and open the page.
4. When '+' is entered, Add 'Add Goal Page' that creates a new sub goal of the current title goal.

5. When '-' is entered, Add 'Delete Goal Page' that delete a sub goal that the user wants to delete.

6. When 0 is entered, exit opened pages until there is opened a main or today's goal page again.

7. When -1 is inputted, the current page is deleted, and repeat the function that opens the previous page.

8. When 'esc' is inputted, the goal data and contents are stored in the csv file respectively, and the program is terminated by send a termination message to 'main.py'.

9. Use the exception handling syntax to open the goal page corresponding to the number if the input is between 1 and the last menu number.

- Apply what I learned: iteration, conditional, list method, list comprehension, function(input/output),int(),len() function ,class, [file input(GoalField()), make file to list], module, package import, exception handling

- Code ScreenShot

Page(title, menu_list), Goal Page(selected_goal)

```
page.py > class_page.py > DeleteGoalPage > open_page
1 #날짜 클래스와 목표 클래스, 페이지 클래스를 하나의 패키지로 통합?
2
3 #Goal 클래스는 설정페이지에서 용역적으로 쓰일 것
4 from goal_py.class_date import Today
5 from goal_py.class_goal import Goal, GoalField, to_digit_number
6 # 페이지 클래스
7 class Page():
8     opened_pages = []
9     # 목표 + 페이지 제목, 목표 레벨, 출력 메뉴 항목
10     def __init__(self, title = '', menu_list = []):
11         self.title = title
12         self.menu_list = menu_list
13         self.basic_menu = ['1. 추가', '-. 삭제', 'enter. 세부 내용', \
14                             '1. 이전으로', '0. 메인으로', '? 도움말', \
15                             'esc.프로그램 종료']
16     # 페이지 내용 업데이트
17     def update_page(self):
18         self.__init__(self.title, self.menu_list)
19     # 페이지 출력
20     def print_page(self):
21
22         print('')
23         print('=====')
24         for menu in self.basic_menu:
25             print(menu, end='')
26         menu_index = self.basic_menu.index(menu)
27         if menu_index % 3 == 2:
28             print('')
29         print('')
30         print('-----')
31         print(self.title)
32         print('-----')
33         for i in range(0, len(self.menu_list)):
34             print(f"({i+1}). {self.menu_list[i]}")
35         print('\n')
36     # 페이지 열기 (상속)
37     def open_page(self):
38         pass
39     # 열린 페이지에 추가
40     def in_opened_pages(self, page):
41         self.opened_pages.append(page)
42     # 마지막 페이지 삭제
43     def delete_page(self):
44         last_index = len(self.opened_pages) - 1
45         if last_index > 0:
46             del self.opened_pages[last_index]
47         else:
48             print('이전 페이지가 없습니다.')
```

```
51 # 목표 기반 페이지
52 class GoalPage(Page):
53     def __init__(self, selected_goal):
54         # 선택한 목표 데이터 중 목표 내용, 하위 목표 생성
55         self.goal = selected_goal
56         goal_content = selected_goal.get_content()
57         self.sub_goal_list = [goal for goal in GoalField().data \
58                             if goal.get_higher_goal_number() == selected_goal.goal_number]
59         sub_goal_contents = [goal.get_content() for goal in self.sub_goal_list]
60         super().__init__(goal_content, sub_goal_contents)
61     # 페이지 업데이트
62     def update_page(self):
63         self.__init__(self.goal)
64     # 페이지 열기
65     def open_page(self):
66         self.print_page()
67         command = input()
68         if(command == ''):
69             pass
70         elif(command == '+'):
71             next_page = AddGoalPage(self.goal)
72             self.in_opened_pages(next_page)
73         elif(command == '-'):
74             next_page = DeleteGoalPage(self.goal)
75             self.in_opened_pages(next_page)
76         # 0 입력시 오늘 목표 페이지 생성
77         elif(command == '0'):
78             next_page = MainGoalPage()
79             self.in_opened_pages(next_page)
80         elif(command == '1'):
81             self.delete_page()
82         # esc 입력시 프로그램 종료 값 반환
83         elif(command == 'esc'):
84             terminate = True
85             return terminate
86         # 1 이상의 정수를 입력했을 경우 해당 목표 페이지 열기
87         else:
88             try:
89                 int_command = int(command)
90             except:
91                 pass
92             else:
93                 if (0 < int_command and int_command <= len(self.menu_list)):
94                     selected_goal = self.sub_goal_list[int_command - 1]
95                     next_page = GoalPage(selected_goal)
96                     self.in_opened_pages(next_page)
97                     return False
98                 print('잘못 입력하셨습니다.')
```

Function 3) Open a Main Goal Page (modified)

- input : root goal(Goal() class), goal field(including data, contents), (goal level), input menu

- output : print main goal page, open a page or terminate program according to a command

- explanation :

1. Create main goals list by entering the root goal(Goal()) into

‘GoalPage().__init__()’ and delete the first item of main goals list because it is the root goal(Goal()).

2. the ‘.open_page()’ method is almost identical to the GoalPage()’s excluding command ‘enter’, and ‘o’.

3. When ‘enter’ is entered, print message ‘there is no goal information’.

4. When 0 is entered, open a new today’s goal page.

- Apply what I learned: ‘del’ function, inheritance, overriding

- Code ScreenShot

MainGoalPage()

```
102 class MainGoalPage(GoalPage):
103     def __init__(self):
104         self.goal = Goal()
105         super().__init__(self.goal)
106         del self.sub_goal_list[0]
107         del self.menu_list[0]
108         #main_goal_list = [goal for goal in GoalField().data if goal.get_level() ==
109         #main_goal_contents = [goal.get_content() for goal in main_goal_list]
110         self.basic_menu[4] = '0, 오늘 목표로 전환'
111     def update_page(self):
112         self.__init__()
113
114     def open_page(self):
115         self.print_page()
116         command = input()
117         if(command == ''):
118             print('재무 내용이 없습니다.')
119         elif(command == '+'):
120             next_page = AddGoalPage(self.goal)
121             self.in_opened_pages(next_page)
122         elif(command == '-'):
123             next_page = DeleteGoalPage(self.goal)
124             self.in_opened_pages(next_page)
125         # 0 입력시 오늘 목표 페이지 열람
126         elif(command == '0'):
127             pass #next_page = TodaysGoalPage()
128         elif(command == '-1'):
129             self.delete_page()
130         elif(command == 'esc'):
131             terminate = True
132             return terminate
133         # 1 이상의 정수를 입력했을 경우 해당 목표 페이지 열기
134         else:
135             try:
136                 int_command = int(command)
137             except:
138                 pass
139             else:
140                 if (0 < int_command and int_command <= len(self.menu_list)):
141                     selected_goal = self.sub_goal_list[int_command - 1]
142                     next_page = GoalPage(selected_goal)
143                     self.in_opened_pages(next_page)
144                     return False
145                 print('잘못 입력하셨습니다.')
146             terminate = False
147             return terminate
```

Function 6) input a new goal

- input : current title goal, goal data field, goal content field, input menu

- output : create a new sub goal of the current title goal.

- explanation :

1. Initialize data : Delete unusing basic menu. If the title goal is main goal(= root goal(Goal())), delete the first item of sub goal list, and menu list.

2. The '.open_page()' method is almost identical to the GoalPage()'s.

3. When the user types the content

3-1. If a sub goal does not exist, a new goal is created with '01' added to the goal number to the index following the current goal.

3-2. If a sub goal exist, a new goal is created with an increase of 1 of the goal number in the index following the last sub-goal.

4. Then, repeat opening AddGoalPage again until the user input '-1', '0', 'esc'.

- Apply what I learned: 'del' function, inheritance, overriding, dictionary, list : add item to the index or key

- Code ScreenShot

```
148
149 # 목표 추가, 삭제 페이지
150 class EditGoalPage(GoalPage):
151
152     def __init__(self, goal):
153         super().__init__(goal)
154         # 이 조건은 왜 self.goal == Goal()이 안되는 건지?
155         # 메인 목표 페이지에서 실행시 첫 하위 목표(메인 목표를 나타내는 목표) 삭제
156         if self.goal.goal_number == Goal().goal_number:
157             del self.sub_goal_list[0]
158             del self.menu_list[0]
159         # 기본 메뉴 : 1, 0, ?, esc
160         for i in range(0,3):
161             del self.basic_menu[0]
162         # 페이지 업데이트
163     def update_page(self):
164         self.__init__(self.goal)
165         # 편집 제목 출력 + 페이지 출력
166     def print_page(self, edit_title):
167         self.title = edit_title + '\n\n' + self.title
168         super().print_page()
```

```

172 # 목표 추가 페이지
173 class AddGoalPage(EditGoalPage):
174     # 페이지 열기
175     def open_page(self):
176         # 페이지 출력
177         self.print_page('목표 추가')
178         command = input()
179         # 입력이 빈칸, 목표 페이지로 이동
180         if command == '':
181             next_page = MainGoalPage()
182             self.in_opened_pages(next_page)
183         elif command == '-1':
184             self.delete_page()
185         elif command == 'esc':
186             terminate = True
187             return terminate
188         # 입력받은 내용을 목표에 추가
189         else:
190             # 마지막 하위 목표 설정
191             current_goal_number = self.goal.goal_number
192             last_sub_goal_index = len(self.sub_goal_list) - 1
193             # 목표 Goal() 클래스의 마지막 하위 목표의 인덱스 계산, 새 목표의 마지막 번호 계산
194             # 하위 목표가 존재할 경우 설정 방법
195             if last_sub_goal_index >= 0:
196                 last_sub_goal = self.sub_goal_list[last_sub_goal_index]
197                 goal_level = last_sub_goal.get_goal_level()
198                 last_part_number = last_sub_goal.get_part_number(goal_level)
199                 new_part_number = to_digit_number(int(last_part_number)+1, last_sub_goal.DIGIT_SIZE)
200                 last_index = GoalField().data.index(last_sub_goal)
201                 # 하위 목표가 없는 경우 현재 페이지의 목표의 인덱스로 계산
202             else:
203                 new_part_number = '01'
204                 last_index = GoalField().data.index(self.goal)
205             # 새 목표의 목표 번호 계산
206             new_goal_number = current_goal_number + new_part_number
207             # Goal() 클래스의 Goal() 함수에 새 목표 입력, 새로 목표에 내용 추가
208             GoalField().data.insert(last_index+1, Goal(new_goal_number))
209             GoalField().contents[new_goal_number] = command
210             terminate = False
211             return terminate

```

```

# 날짜 페이지에서 목표 추가, 삭제
class EditDatePage(DatePage):
    def __init__(self, date = Date()):
        super().__init__(date)
        # 기본 메뉴 : -1, 0, ?, esc
        for i in range(0, 3):
            del self.basic_menu[0]
        # 페이지 업데이트
    def update_page(self):
        self.__init__(self.date)
        # 편집 제목 출력 + 페이지 출력
    def print_page(self, edit_title):
        self.title = edit_title + '\n\n' + self.title
        super().print_page()

```

```

# 날짜 페이지에서 목표 추가
class AddDatePage(EditDatePage):
    def open_page(self):
        # 페이지 출력
        self.print_page('목표 추가')
        command = input()
        # 입력이 빈칸, 목표 페이지로 이동
        if command == '':
            next_page = TodayGoalPage()
            self.in_opened_pages(next_page)
        elif command == '-1':
            self.delete_page()
        elif command == 'esc':
            terminate = True
            return terminate
        else:
            # 페이지 날짜를 날짜로 하는 목표 생성
            last_number = 0
            for goal in GoalField().data:
                if goal.get_goal_level() == 0:
                    last_number += 1
            goal_number = to_digit_number(last_number + 1, Goal().DIGIT_SIZE)
            GoalField().data.append(Goal(goal_number, self.date))
            GoalField().contents[goal_number] = command
            terminate = False
            return terminate

```

Function 7) delete a goal

- input : goal data field, goal content field, input menu
- output : delete a sub goal that the user wants to delete.
- explanation :

1. The 'open_page()' method is almost identical to the GoalPage()'s.
 2. Ask if you really want to delete the goal.
 3. Delete the selected goal and all sub-goals (goals with the same goal number up to the level of that object).
- Apply what I learned: 'del' function, inheritance, overriding, dictionary, list : delete item or key

- Code ScreenShot

```

339 # 목표 삭제 페이지
340 class DeleteGoalPage(EditGoalPage):
341     # 페이지 열기
342     def open_page(self):
343         self.print_page('목표 삭제')
344         command = input()
345
346         # 하위 목표가 존재하는지 확인
347         if (len(self.sub_goal_list) == 0):
348             print('목표가 존재하지 않습니다.')
349             self.delete_page()
350         # 0 입력시 메인 목표 페이지로 이동
351         elif (command == '0'):
352             next_page = MainGoalPage()
353             self.in_opened_pages(next_page)
354         elif (command == '-1'):
355             self.delete_page()
356         elif (command == 'esc'):
357             terminate = True
358             return terminate
359
360         else:
361             try:
362                 int_command = int(command)
363             except:
364                 pass
365             else:
366                 # 하위 목표 리스트의 번호 (내의 경우 입력시
367                 if (0 < int_command and int_command <= len(self.menu_list)):
368                     # 정렬 삭제할지 확인하기
369                     do_delete = input('정말 목표를 삭제하시겠습니까? (Y/N): ').lower()
370                     if do_delete == 'y':
371                         selected_goal = self.sub_goal_list[int_command - 1]
372                         goal_level = selected_goal.get_goal_level()
373                         # 해당 목표와 모-은 하위 항목(해당 목표의 레벨까지 목표번호가 동일한 목표)들을 삭제
374                         for goal in GoalField().data:
375                             check_number = goal.goal_number[0:(goal_level + 1) * goal.DIGIT_SIZE]
376                             if check_number == selected_goal.goal_number:
377                                 GoalField().data.remove(goal)
378                                 GoalField().contents.pop(goal.goal_number)
379                         terminate = False
380                         return terminate
381                     elif do_delete == 'n':
382                         terminate = False
383                         return terminate
384                 # 잘못 입력시
385                 print('잘못 입력하였습니다.')
386                 terminate = False
387                 return terminate

```

```

# 날짜 페이지에서 목표 삭제
class DeleteDatePage(EditDatePage):
    def open_page(self):
        # 페이지 열기
        self.print_page('목표 삭제')
        if (len(self.goal_list) == 0):
            print('목표가 존재하지 않습니다.')
            self.delete_page()
            terminate = False
            return terminate
        command = input()
        # 0 입력시 오늘 목표 페이지로 이동
        if (command == '0'):
            next_page = TodayGoalPage()
            self.in_opened_pages(next_page)
        elif (command == '-1'):
            self.delete_page()
        elif (command == 'esc'):
            terminate = True
            return terminate
        else:
            try:
                int_command = int(command)
            except:
                pass
            else:
                # 하위 목표 리스트의 번호 (내의 경우 입력시
                if (0 < int_command and int_command <= len(self.menu_list)):
                    # 정렬 삭제할지 확인하기
                    do_delete = input('정말 목표를 삭제하시겠습니까? (Y/N): ').lower()
                    if do_delete == 'y':
                        selected_goal = self.goal_list[int_command - 1]
                        goal_level = selected_goal.get_goal_level()
                        # 해당 목표와 모-은 하위 항목(해당 목표의 레벨까지 목표번호가 동일한 목표)들을 삭제
                        for goal in GoalField().data:
                            check_number = goal.goal_number[0:(goal_level + 1) * goal.DIGIT_SIZE]
                            if check_number == selected_goal.goal_number:
                                GoalField().data.remove(goal)
                                GoalField().contents.pop(goal.goal_number)
                        terminate = False
                        return terminate
                    elif do_delete == 'n':
                        terminate = False
                        return terminate
                # 잘못 입력시
                print('잘못 입력하였습니다.')
                terminate = False
                return terminate

```

Function 8) Setting

- input : current title goal, goal data field, goal content field, input menu
- output : print goal information(date, deadline, term, achievement) and , open a setting page according to a command
- explanation

1. Initialize information from entered goal.
2. print information as a menu.

3. if you input '1', you enter the goal where you want to move the title goal.

4. if you enter '2', you enter the date to modify the date of the goal.

5. if you enter '3', you enter the deadline to modify the deadline of the goal.

6. if you enter '4', you enter the term to modify the term of the goal.

- Apply what I learned: 'del' function, inheritance, overriding, dictionary, list :
add item to the index or key

- Code ScreenShot

```
class GoalInformationPage(Page):
    def __init__(self, goal = Goal()):
        self.goal = goal
        goal_content = goal.get_content()
        higher_goal = GoalField.contents[goal.get_higher_goal_number()]
        date = goal.date.get_date_string()
        deadline = goal.deadline.get_date_string()
        term = str(goal.term)
        achievement = str(goal.achievement)
        self.information_menu = {'설정': higher_goal, '날짜': date, '기한': deadline, '완료': term, '달성률': achievement}
        super().__init__(goal_content)
        # 기본 메뉴 = 0, 1, 2, 3, 4, 5
        for i in range(0, 5):
            del self.basic_menu[i]

    def update_page(self):
        self.__init__(self.goal)
        # 편집 화면 출력 > 페이지 출력
    def print_page(self, edit_title):
        self.title = edit_title + '\n\n' + self.title
        print("")
        print("=====")
        for menu in self.basic_menu:
            print(menu, end='')
            menu_index = self.basic_menu.index(menu)
            if menu_index % 3 == 2:
                print("")
        print("")
        print("-----")
        print(self.title)
        print("-----")
        i = 1
        for menu in self.information_menu.items():
            print(f'{i}. {menu[0]} : {menu[1]}')
            i += 1
        print("\n")

    def open_page(self):
        self.print_page('메인 화면')
        command = input()
        if command == '0':
            next_page = MainGoalPage()
            self.in.opened_pages(next_page)
        elif command == '1':
            self.delete_page()
        elif command == 'esc':
            terminate = True
            return terminate
        elif command == '1':
            self.set_higher_goal()
        elif command == '2':
            self.set_date()
        elif command == '3':
            self.set_deadline()
        elif command == '4':
            self.set_term()
        else:
            print('잘못 입력하셨습니다.')
```

```

def set_higher_goal(self):
    print('-----')
    higher_goal_content = input("\n상위 목표 변경 : ")
    try:
        higher_goal_number = GoalField().get_goal_number(higher_goal_content)
        higher_goal = GoalField().get_goal(higher_goal_number)
        GoalField().set_sub_goal(higher_goal, self.goal, self.goal.get_content())
    except:
        print('입력한 목표가 존재하지 않습니다.')

def set_date(self):
    print('-----')
    input_text = input("\n날짜 변경 : ")
    date = extract_text_and_date(input_text)
    if date.day != 0:
        self.goal.date = date
    else:
        print('날짜를 인식하지 못하였습니다.')

def set_deadline(self):
    print('-----')
    if self.date.day == 0:
        self.date = Today()
    input_text = input("\n기한 변경 : ")
    deadline = extract_text_and_date(input_text)
    if deadline.day != 0:
        self.goal.deadline = deadline
    else:
        print('기한을 인식하지 못하였습니다.')

def set_term(self):
    print('-----')
    if self.date.day == 0:
        self.date = Today()
    input_text = input("\n주기 변경 : ")
    term = extract_term_from_text(input_text)
    if term != 0:
        self.goal.term = term
    else:
        print('주기를 인식하지 못하였습니다.')

```

4) Test Result

Function 1) Open a page, and the, open next page en

1. At the start of the program, the main menus and main goals are displayed on the screen

```

=====
+. 추가          -. 삭제          enter. 세부 내용
-1. 이전으로    0. 오늘 목표로 전환  ?. 도움말
esc. 프로그램 종료

메인 목표
=====
1. 1번 목표
2. 2번 목표
3. 3번 목표

```

Function 2) Open a Today's Goal Page

1. when '0' is inputted at the mainPage, Output the Today's Goal menu

```

0

=====
+. 추가          -. 삭제          enter. 내일
-1. 이전으로    0. 메인 목표로 전환  ?. 도움말
esc. 프로그램 종료

12월 24일 일요일
=====

```

Function 3) Open a Main Goal Page (modified)

1. when '+' is inputted, Output the Add Goal menu

```
+  
  
=====   
-1. 이전으로      0. 메인으로      ?. 도움말  
esc. 프로그램 종료  
=====   
목표 추가  
  
메인 목표  
=====   
1. 1번 목표  
2. 2번 목표  
3. 3번 목표
```

2. when '-' is inputted, Output the Delete Goal menu

```
-  
  
=====   
-1. 이전으로      0. 메인으로      ?. 도움말  
esc. 프로그램 종료  
=====   
목표 삭제  
  
메인 목표  
=====   
1. 1번 목표  
2. 2번 목표  
3. 3번 목표  
4. 4번 목표
```

3. when '-1' is inputted, output previews page

```
-1  
  
=====   
-1. 이전으로      0. 메인으로      ?. 도움말  
esc. 프로그램 종료  
=====   
목표 추가  
  
메인 목표  
=====   
1. 1번 목표  
2. 2번 목표  
3. 3번 목표  
4. 4번 목표
```

4. when 'esc' is inputted, save the data at the csv fiel, and terminate the program.

```
esc  
프로그램을 종료합니다.  
PS C:\Users\200244\코딩 파일\VS Code\goal_based_planner> |
```

After adding '4번 목표', contents csv file, data csv file

1	,메인 목표	,0,0,0,0,0,0.0
2	01,1번 목표	01,0,0,0,0,0,0.0
3	02,2번 목표	0102,0,0,0,0,0,0.0
4	03,3번 목표	0103,0,0,0,0,0,0.0
5	0102,1번 하위 목표2	010201,0,0,0,0,0,0.0
6	010201,1번 하위의 하위 목표1	010202,0,0,0,0,0,0.0
7	010202,1번 하위의 하위 목표2	02,0,0,0,0,0,0.0
8	0103,1번 하위 목표3	03,0,0,0,0,0,0.0
9	04,4번 목표	04,0,0,0,0,0,0.0

5. If you entered incorrectly, '잘못 입력하였습니다.' output

```
=====
+. 추가          -. 삭제          enter. 세부 내용
-1. 이전으로    0. 오늘 목표로 전환  ?. 도움말
esc. 프로그램 종료

-----
메인 목표
-----
1. 1번 목표
2. 2번 목표
3. 3번 목표

잘못 입력
잘못 입력 하였습니다.
```

Function 4) Date-based move to and output a goal list

2. if you enter '+', open add page, and add the input goal to that date.

```
+
=====
-1. 이전으로    0. 메인으로      ?. 도움말
esc. 프로그램 종료

-----
목표 추가

12월 24일 일요일
-----

오늘의 목표
=====
-1. 이전으로    0. 메인으로      ?. 도움말
esc. 프로그램 종료

-----
목표 추가

12월 24일 일요일
-----
1. 오늘의 목표
```

2. if you enter '-', open delete page.

```

1. 오늘의 목표

1
정말 목표를 삭제하시겠습니까? (Y/N): y

=====
-1. 이전으로      0. 메인으로      ?. 도움말
esc.프로그램 종료
=====
목표 삭제

12월 24일 일요일
=====

목표가 존재하지 않습니다.

```

3. if you enter a date, move to the page of that date.

```

12월 22일

=====
+. 추가      -. 삭제      enter. 다음 날짜
-1. 이전으로  0. 메인으로    ?. 도움말
esc.프로그램 종료
=====
12월 22일 금요일
=====
1. 4번 목표

```

4. if you enter 'today', move to the Today's page.

```

오늘

=====
+. 추가      -. 삭제      enter. 다음 날짜
-1. 이전으로  0. 메인으로    ?. 도움말
esc.프로그램 종료
=====
12월 24일 일요일
=====

```

5. if you enter 'tomorrow', move to the page of tomorrow.

```

내일

=====
+. 추가      -. 삭제      enter. 다음 날짜
-1. 이전으로  0. 메인으로    ?. 도움말
esc.프로그램 종료
=====
12월 25일 월요일
=====

```

5. if you enter '모레', move to the page of the next day of tomorrow.

```

모레

=====
+. 추가          -. 삭제          enter. 다음 날짜
-1. 이전으로     0. 메인으로       ?. 도움말
esc. 프로그램 종료
=====
12월 26일 화요일
=====

```

Function 5) Move to and output to the higher/sub goal list

1. when '+' is inputted, Output the Add Goal menu

```

-
=====
-1. 이전으로     0. 메인으로       ?. 도움말
esc. 프로그램 종료
=====
목표 삭제

1번 목표
=====
1. 1번 하위 목표1
2. 2번 하위 목표2
3. 3번 하위 목표3

```

2. when '-' is inputted, Output the Delete Goal menu

```

-
=====
-1. 이전으로     0. 메인으로       ?. 도움말
esc. 프로그램 종료
=====
목표 삭제

1번 목표
=====
1. 1번 하위 목표1
2. 2번 하위 목표2
3. 3번 하위 목표3

```

3. when '-1' is inputted, output previews page

```

-1
=====
+. 추가          -. 삭제          enter. 세부 내용
-1. 이전으로     0. 오늘 목표로 전환   ?. 도움말
esc. 프로그램 종료
=====
메인 목표
=====
1. 1번 목표
2. 2번 목표
3. 3번 목표

```

4. when '0' is inputted, output main goal page

```

0

=====
+. 추가          -. 삭제          enter. 세부 내용
-1. 이전으로    0. 오늘 목표로 전환  ?. 도움말
esc.프로그램 종료
=====
메인 목표
=====
1. 1번 목표
2. 2번 목표
3. 3번 목표

```

5. when 'esc' is inputted, save the data at the csv fiel, and terminate the program.

```

esc
프로그램을 종료합니다.
PS C:\Users\200244\코딩 파일\VS Code\goal_based_planner>

```

After deleting '4번 목표', adding '1번 하위 목표 3', contents csv file, data csv file

goal_csv > goal_contents.csv	goal_csv > goal_data.csv
1 ,메인 목표	1 ,0,0,0,0,0,0,0.0
2 01,1번 목표	2 01,0,0,0,0,0,0,0.0
3 02,2번 목표	3 0102,0,0,0,0,0,0,0.0
4 03,3번 목표	4 0103,0,0,0,0,0,0,0.0
5 0102,1번 하위 목표2	5 010201,0,0,0,0,0,0,0.0
6 010201,1번 하위의 하위 목표1	6 010202,0,0,0,0,0,0,0.0
7 010202,1번 하위의 하위 목표2	7 02,0,0,0,0,0,0,0.0
8 0103,1번 하위 목표3	8 03,0,0,0,0,0,0,0.0

6. When you enter the desired goal number, the sub-goal output of the corresponding goal page is displayed

```

2

=====
+. 추가          -. 삭제          enter. 세부 내용
-1. 이전으로    0. 메인으로        ?. 도움말
esc.프로그램 종료
=====
2번 하위 목표2
=====
1. 1번 하위의 하위 목표2

```

7. If you entered incorrectly, '잘못 입력하였습니다.' output

5 잘못 입력하였습니다.	잘못 입력 잘못 입력하였습니다.
=====	=====
+. 추가 -. 삭제 enter. 세부 내용	+. 추가 -. 삭제 enter. 세부 내용
-1. 이전으로 0. 메인으로 ?. 도움말	-1. 이전으로 0. 메인으로 ?. 도움말
esc.프로그램 종료	esc.프로그램 종료
=====	=====
1번 목표	1번 목표
=====	=====
1. 1번 하위 목표1	1. 1번 하위 목표1
2. 2번 하위 목표2	2. 2번 하위 목표2
3. 3번 하위 목표3	3. 3번 하위 목표3

Function 6) input a new goal

1. Add input content to the main goal (check if it is added to the main goal)

```
4번 목표

=====
-1. 이전으로      0. 메인으로      ?. 도움말
esc. 프로그램 종료
=====
목표 추가

메인 목표
=====
1. 1번 목표
2. 2번 목표
3. 3번 목표
4. 4번 목표
```

2. Add input content to the current goal (check if it is added to the current goal)

```
3번 하위 목표3

=====
-1. 이전으로      0. 메인으로      ?. 도움말
esc. 프로그램 종료
=====
목표 추가

1번 목표
=====
1. 1번 하위 목표1
2. 2번 하위 목표2
3. 3번 하위 목표3
```

3. when '-1' is inputted, output previews page

```
-1

=====
+. 추가          -. 삭제          enter. 세부 내용
-1. 이전으로      0. 오늘 목표로 전환    ?. 도움말
esc. 프로그램 종료
=====
메인 목표
=====
1. 1번 목표
2. 2번 목표
3. 3번 목표
4. 4번 목표
```

4. when '0' is inputted, output main goal page

```

0
=====
+. 추가          -. 삭제          enter. 세부 내용
-1. 이전으로    0. 오늘 목표로 전환  ?. 도움말
esc. 프로그램 종료
-----
메인 목표
-----
1. 1번 목표
2. 2번 목표
3. 3번 목표
4. 4번 목표

```

Function 7) delete a goal

1. When entering the number of the deletion goal, a message is output to confirm whether the goal is to be deleted

Delete the corresponding goal when entering y (or Y)

```

4
정말 목표를 삭제하시겠습니까? (Y/N): y
=====
-1. 이전으로    0. 메인으로        ?. 도움말
esc. 프로그램 종료
-----
목표 삭제
-----
메인 목표
-----
1. 1번 목표
2. 2번 목표
3. 3번 목표

```

2. Return to the Delete page when n(or N) is entered

```

3
정말 목표를 삭제하시겠습니까? (Y/N): n
=====
-1. 이전으로    0. 메인으로        ?. 도움말
esc. 프로그램 종료
-----
목표 삭제
-----
메인 목표
-----
1. 1번 목표
2. 2번 목표
3. 3번 목표

```

3. when '-1' is inputted, output previews page

```

-1

=====
+. 추가          -. 삭제          enter. 세부 내용
-1. 이전으로     0. 오늘 목표로 전환  ?. 도움말
esc. 프로그램 종료
=====
메인 목표
=====
1. 1번 목표
2. 2번 목표
3. 3번 목표

```

4. when '0' is inputted, output main goal page

```

0

=====
+. 추가          -. 삭제          enter. 세부 내용
-1. 이전으로     0. 오늘 목표로 전환  ?. 도움말
esc. 프로그램 종료
=====
메인 목표
=====
1. 1번 목표
2. 2번 목표
3. 3번 목표

```

5. If you entered incorrectly, '잘못 입력하였습니다.' output

```

잘못 입력
잘못 입력 하였습니다.

=====
-1. 이전으로     0. 메인으로       ?. 도움말
esc. 프로그램 종료
=====
목표 삭제

메인 목표
=====
1. 1번 목표
2. 2번 목표
3. 3번 목표

```

Function 8) Setting

1. if you enter 'enter', open goal information page.

```

=====
-1. 이전으로     0. 메인으로       ?. 도움말
esc. 프로그램 종료
=====
목표 정보

4번 목표
=====
1. 상위 목표 : 메인 목표
2. 날짜 : 12월 22일
3. 기한 : 0월 0일
4. 반복 : 2
5. 달성량 : 0.0

```

2. if you enter '1', change the higher goal.

```
1
-----

상위 목표 변경 : 1번 목표

=====
-1. 이전으로      0. 메인으로      ?. 도움말
esc.프로그램 종료
=====

목표 정보

4번 목표
-----
1. 상위 목표 : 1번 목표
2. 날짜 : 12월 22일
3. 기한 : 0월 0일
4. 반복 : 2
5. 달성량 : 0.0
```

3. if you enter '2', change the date.

```
2
-----

날짜 변경 : 오늘

=====
-1. 이전으로      0. 메인으로      ?. 도움말
esc.프로그램 종료
=====

목표 정보

4번 목표
-----
1. 상위 목표 : 1번 목표
2. 날짜 : 12월 24일
3. 기한 : 0월 0일
4. 반복 : 2
5. 달성량 : 0.0
```

4. if you enter '3', change the deadline.

```
3
-----

기한 변경 : 모레

=====
-1. 이전으로      0. 메인으로      ?. 도움말
esc.프로그램 종료
=====

목표 정보

4번 목표
-----
1. 상위 목표 : 1번 목표
2. 날짜 : 12월 24일
3. 기한 : 12월 26일
4. 반복 : 2
5. 달성량 : 0.0
```

4. if you enter '4', change the term.

4	4	4
주기 변경 : 매일	주기 변경 : 이틀	주기 변경 : 일주일
=====	=====	=====
-1. 이전으로 0. 메인으로 ?. 도움말 esc. 프로그램 종료	-1. 이전으로 0. 메인으로 ?. 도움말 esc. 프로그램 종료	-1. 이전으로 0. 메인으로 ?. 도움말 esc. 프로그램 종료
-----	-----	-----
목표 정보	목표 정보	목표 정보
4번 목표	4번 목표	4번 목표
-----	-----	-----
1. 상위 목표 : 1번 목표 2. 날짜 : 12월 24일 3. 기한 : 12월 26일 4. 반복 : 1 5. 달성률 : 0.0	1. 상위 목표 : 1번 목표 2. 날짜 : 12월 24일 3. 기한 : 12월 26일 4. 반복 : 2 5. 달성률 : 0.0	1. 상위 목표 : 1번 목표 2. 날짜 : 12월 24일 3. 기한 : 12월 26일 4. 반복 : 7 5. 달성률 : 0.0

4. Changes in Comparison to the Plan

1) '0' command change

- before

In main page, '0' command is a terminate command.

- after

The '0' command is changed to move to 'today's goal page' in the main goal page, and in other page, '0' command means 'move to current main page'.

- cause

It is more intuitive than when '0' is terminate command.

2) terminate the program

- before

Terminate message is sended to main.py only in main page.

- after

In all pages, when 'esc' is inputted, you can terminate the program.

- cause

Changing the operation of '0' command, a new command 'esc' is added.

3) No week page.

- before

You can enter the week page.

- after

No week page.

- cause

In the week page, there are 7 days goals. I think it is too much to print at the page. So Only date page is exist.

4) delete achievement function

- before

You can change achievment of the gaol.

- after

Delete this function.

- cause

To operate this function, it need the function that input the complete message, but I use 'enter' command to open information page. So to make the achievement function, I have to make more new and more detailed input stucture to input informationg about achievement.

5. Lessons Learned & Feedback

It was the first project to create a proper program. When I planned the function, I planned without knowing anything about the class. So, even when writing the code for the first time, I was making a function-oriented procedure-oriented program. However, after learning the class, I realized that the plan I made at this time made it very inconvenient to write the actual code. To create a function, I had to make more basic functions than that, but the first plan was difficult to separate them into functional units by writing down the functions as they came to mind rather than dividing them into small units. Also, as the concepts I learned while learning a new programming language were applied to the project immediately, the original code often had to be revised drastically, and it was difficult to compose the code while learning the concepts. In the process of classifying all the functions created in the beginning, modifying the parameters with pointers and references, converting the arrangement into a vector, and

simply solving the initialization by declaring variables one by one into code, various detailed errors occurred. In particular, I had a hard time importing it correctly because I did not learn the data structure, because I did not know the data structure concepts, such as modules, packages, files, and folders. Python's characteristics, which are different from c and c++, frequently confused me. There were more differences than I thought, such as not specifying a return type as a function parameter, always referring to arguments, and not having a separate concept of static variables. I thought that knowing how to handle several programming languages properly could be a really difficult task. As I kept writing the program, I felt like I was gradually realizing what kind of thinking process was appropriate for programming. I didn't know when to annotate a class or function, but when I saw the explanation that comes out when I mouse over it, I realized that it was intended to look at the annotations and make them easier to use when using this class again. Previously, I had no idea which code was good and how to program it, but as I made the cd, separable functions were separated from each other to function, and code readability and scalability were continuously considered, I thought that these would be learned only by squeezing a lot of codes. I was busy because I had to do two projects this semester, but in the upcoming winter vacation, I will reorganize what I learned through this project, and review the algorithm subjects again while studying grammar and errors to lay the foundation. These subjects were generally difficult because they were tight to learn, but I was able to learn that much, and it was so good that I felt like I learned more.