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Task Manager

[Goal of This Program]

This program can manage your tasks. You can basically save several things in this task manager below;

- name of the task (20 characters are maximum)
- task description (200 characters are maximum)
- the category of the task (20 characters are maximum)
- the start and end date of the task (year/month/day)
- priority of the task (1 to 10)
- Task name which is dependent on the current task.

After creating the tasks, it is also possible to see the list of unfinished tasks in chronological order, and lists of categories and tasks, and list of dependent tasks.

The user input data will be stored in the file, database.txt. They are text type files. The files open in each function, and read or print the data from the files.

First Menu

[User Interface]

"What would you like to do?"

"-----"

"1) Create a new task"

"2) See your unfinished tasks"

"3) See your categories and tasks"

"4) See dependent tasks"

"-----"

"Please enter the number which you would like to do: "

[Explanation]

This is the first menu with four options, which the user will see at first sight. By selecting and entering the numbers of the option, the user can choose the next step. 1 to 4 is numbers which are expected to be input by the user. If the user input invalid number, it shows "There is no such option!".

[Expected Output]

To connect the program to the next selected operation.

Menu of "1) Create a new task"

[User Interface]

"Please fill in below"

"-----"

"1) Please enter name of the task (within 20 characters): "

"2) Enter the description of the task (within 200 characters): "

"3) Please enter the name of this category(within 20 characters): "

"4) Please enter the expected start date of the task:"

"year: "

"month: "

"day: "

"5) Please enter the expected end date of the task:"

"year: "

"month: "

"day: "

"6) Please select the priority of the task from 1(low) to 10(High): "

"7) Any related task? If yes, write the related task name, if no, enter 0: "

"-----"

[Explanation]

If the user chooses the option "1) Create a new task" in the first menu, the user will see this menu. There are seven steps to register a new task. The user needs to input the numbers and words following the instructions. These orders will be shown to the user one by one. The data will be stored in the database.txt file immediately.

Menu of “2) See your unfinished tasks”

[User Interface]

“Please fill in below”

“-----”

“Please enter today’s date: ”

“year: ”

“month: ”

“day: ”

“-----”

[Explanation]

This option will show the user the list of the unfinished tasks chronologically. “Unfinished task” means ongoing tasks, which means the start date is after today’s date, and end date is before today’s date . After the user’s input, this program will show the list of unfinished tasks.

[Expected Output]

This is the example of the expected output of this menu. The tasks will be shown in chronological orders. If there are no unfinished tasks, then the program shows “You have no unfinished task!”. If there are unfinished tasks, it shows the sample below.

“-----”

“Task name: submit HW”

“Task description: programming assignment”

“Task category: study ”

“Start date: 2021/12/23”

“End date: 2021/12/25”

“Priority: 9”

“Name of the depending task: pass programming”

"Task name: call mom"

"Task description: tell her what happened recently"

"Task category: family"

"Start date: 2021/12/26"

"End date: 2021/12/26"

"Priority: 4"

"Name of the depending task: 0"

"-----"

Menu of "3) See your categories and tasks"

[User Interface]

"Please enter the name of the category you would like to see: "

"-----"

[Explanation]

In this option, the user can see the list of the tasks by entering a name of the category.

[Expected Output]

After the user's input, the program shows the list of the tasks which belong to the chosen category. The task will be shown as

[UI Example]

"Please enter the name of the category you would like to see: study"

"-----"

"Task name: submit HW"

"Task description: programming assignment"

"Task category: study "

"Start date: 2021/12/23"

"End date: 2021/12/25"

"Priority: 9"

"Name of the depending task: pass programming"

"Task name: review calculus"

"Task description: prepare for second mid"

"Task category: study"

"Start date: 2021/12/27"

"End date: 2021/12/29"

"Priority: 10"

"Name of the depending task: 0"

"-----"

Menu of 4) See dependent tasks

[User Interface]

"Please enter the name of the depend task you would like to see: "

"-----"

[Explanation]

This option will show the list of dependent tasks. Program asks the user to input the name of the task which some other tasks depend on. After entering the name of the task, the program will show the list of the tasks which depend on the given task.

[Expected Output example]

"Please enter the name of the depend task you would like to see: pass programming"

"-----"

"An independent task"

"Task name: pass programming"

"Task description: get credit for programming this semester!!"

"Task category: study "

"Start date: 2021/9/5"

"End date: 2021/12/31"

"Priority: 10"

"Tasks which depends on the task above"

"Task name: submit HW"

"Task description: programming assignment"

"Task category: study "

"Start date: 2021/12/23"

"End date: 2021/12/25"

"Priority: 9"

"Task name: pass weekly test"

"Task description: prepare to study linked list"

"Task category: study"

"Start date: 2021/10/4"

"End date: 2021/10/7"

"Priority: 5"

"-----"

[Possible errors]

If the user enters invalid numbers or words, there is a possibility that the program will not work properly. Especially, it is easy to expect this might happen with the length of the name of the tasks, task description, and name of the category. In the case if the user input more than the characters which the program shows, the extra characters will not be stored in data. In addition, if the file does not exist, the program will not work.

There is a possibility of the file not opening successfully, or right memory allocation will not be assigned to a certain point. If this happens, an error message

will be shown.