B2 - Synthesis Pool

B-SYN-200

Meeting Calendar

a meeting calendar manager

{EPITECH.}

Meeting Calendar

binary name: requirement.c, calendar
repository name: SYN_calendar_$ACADEMICYEAR
repository rights: ramassage-tek
language: C
compilation: via Makefile, including re, clean and fclean rules

- Your repository must contain the totality of your source files, but no useless files (binary, temp files, obj files,...).

- All the bonus files (including a potential specific Makefile) should be in a directory named *bonus*.

- Error messages have to be written on the error output, and the program should then exit with the 84 error code (0 if there is no error).

REQUIREMENT

Write a c file named **requirement.c** that contains the following two functions and the following structure (which must be defined in a file named **requirement.h**):

```
typedef struct list
{
        void        *data;
        struct list *next;
} list_t
```

Using only pointer manipulation, write a function that reverses the order of the elements on the list and another one that returns the address of the first node containing data equal to the reference data.
They should be prototyped the following way:

```
int     my_revlist_synthesis(list_t **begin);
list_t  *my_findnodeeqinlist_synthesis(list_t *begin, void *data_ref,
                              int(*cmp)(void*, void*));
```

> The cmp function could be *my_strcmp* for instance; the elements are only considered equal if cmp returns 0.

> Only malloc and free are allowed from libC.

> The rest of the project will not be corrected unless this requirement is fully functional (and rewritten).

> The file must be placed at the root of your git repository.
> It will be compiled with our main function, and our Makefile (the -I flag being empty).

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Meeting Calendar

The goal of this project is to create a professional calendar, including employees and meetings management.

Only the following two structures are allowed:

1. *employee_t* for the employees, containing, in particular, the following: ID, last name, first name, position, employee's agency zipcode,
2. *meeting_t* for meetings, containing, in particular, the following: ID, day and meeting place zipcode of the meeting.

The program reads instructions on the standard input.
The authorized instructions are:

1. **new_employee** name forename job zipcode id
2. **new_meeting** place date id idEmployee1 idEmployee2 [idEmployee3 ….]
3. **invite** idMeeting idEmployee1 [idEmployee2 ….]
4. **exclude** idMeeting idEmployee1 [idEmployee2 ….]
5. **info_employees** sortByE [idEmployee1 ….]
6. **info_meetings** sortByM [idMeeting1 ….]
7. **cancel** idMeeting1 [idMeeting2 ….]
8. **fire** idEmployee1 [idEmployee2 ….]
9. **END**

sortByE can take the following values:

1. **sortByName** to sort by name (then forename, then id) in ascending order
2. **sortByForename** to sort by forename (then name, then id) in ascending order
3. **sortByJob** to sort by position (then name, then forename, then id) in ascending order
4. **sortByZip** to sort by zipcode (then name, then forename, then id) in ascending order
5. **sortById** to sort by id in ascending order

sortByM can take the following values:

1. **sortByDate** to sort by date (then id) in ascending order
2. **sortByZip** to sort by zipcode (then id) in ascending order
3. **sortById** to sort by id in ascending order

> The meetings a given employee is registered to are printed in compliance with sortByDate, then with sortByZip.
> The meeting attendees are always printed in compliance with sortByName.

> A meeting with only one person (or less…) must be cancelled!

```
~/B-SYN-200> ./calendar -h
USAGE
     write instructions to the standard output until the END instruction
```

Any invalid instruction should be ignored without triggering an error.
The only valid date format is dd/mm/yyyy.
Fired employees and cancelled meetings must be skipped.
None of these cases triggers an error.

```
~/B-SYN-200> cat input
new_employee Hasselhoff David PDG F-13000 1
new_employee Anderson Pamela DDR F-31000 2
new_employee LeeNolin Gena DDR F-94270 3
new_employee Charvet David DPR F-54000 4
new_meeting F-59330 14/04/2034 10 1 2
new_meeting F-67100 13/04/2034 11 1 3
invite 10 3
invite 11 4 1 3 2
exclude 10 1
fire 4
info_meetings sortByDate 10 11
info_employees sortByName 2 4
info_employees sortByFootSize 2 3
info_employees sortByZip 2 3
END
~/B-SYN-200> ./calendar 2>devnull <input
****************************
MEETING
date: 13/04/2034
place: F-67100
with Pamela Anderson, David Hasselhoff, Gena LeeNolin
****************************
MEETING
date: 14/04/2034
place: F-59330
with Pamela Anderson, Gena LeeNolin
****************************
Pamela Anderson
position: DDR
city: F-31000
meeting on 13/04/2034, F-67100, with David Hasselhoff, Gena LeeNolin
meeting on 14/04/2034, F-59330, with Gena LeeNolin
****************************
Pamela Anderson
position: DDR
city: F-31000
meeting on 13/04/2034, F-67100, with David Hasselhoff, Gena LeeNolin
meeting on 14/04/2034, F-59330, with Gena LeeNolin
****************************
Gena LeeNolin
position: DDR
city: F-94270
meeting on 13/04/2034, F-67100, with Pamela Anderson, David Hasselhoff
meeting on 14/04/2034, F-59330, with Pamela Anderson
```

```
∇                                    Terminal                              –  +  x
~/B-SYN-200> cat input
new_employee Hasselhoff David PDG F-13000 1
new_employee Anderson Pamela DDR F-31000 2
new_employee LeeNolin Gena DDR F-94270 3
new_employee Charvet David DPR F-54000 4
new_meeting F-57000 25/12/2034 10 1 2 3 4
new_meeting F-13000 01/05/2034 11 1 4
new_meeting F-46800 01/05/2034 12 1 3
fire 4
info_employees sortByName
END
~/B-SYN-200> ./calendar 2>devnull < input
****************************
Pamela Anderson
position: DDR
city: F-31000
meeting on 25/12/2034, F-57000, with David Hasselhoff, Gena LeeNolin
****************************
David Hasselhoff
position: PDG
city: F-13000
meeting on 01/05/2034, F-46800, with Gena LeeNolin
meeting on 25/12/2034, F-57000, with Pamela Anderson, Gena LeeNolin
****************************
Gena LeeNolin
position: DDR
city: F-94270
meeting on 01/05/2034, F-46800, with David Hasselhoff
meeting on 25/12/2034, F-57000, with Pamela Anderson, David Hasselhoff
```

Your program outputs have to be strictly identical to the ones above.

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