

Lee Guo Sheng Alexander - Project Portfolio

Project: ABC Business Contacts

ABC Business Contacts (ABC) is a free desktop contact management application that provides the user with a quick and convenient way to manage a large number of contacts and keep track of appointments. The user can store contacts as well as other information and retrieve them efficiently with the help of **ABC**. The user interacts with it using a CLI, and it has a GUI created with JavaFX. It is written in Java.

Code contributed: [\[Functional code\]](#) [\[Test code\]](#)

Enhancement Added: AddTag/DeleteTag

External behavior

Start of Extract [from: User Guide]

Adding a tag to a person : addtag

Command Name: **addtag**

Shorthand Alias: **at**

Function: Adds a tag to an existing person at the specified **INDEX** in your **ABC**

Format: **addtag INDEX TAG**

NOTE	Only one tag can be added at a time
NOTE	Special characters will not be accepted e.g !, @, #, ...

If you want to add a single tag to a contact in your **ABC**:

1. Locate the contact you want to add a tag to and take note of its index
2. Type in the index of the contact, and the tag you wish to add
>> addtag 1 classmates
(See Figure 4.8.1)

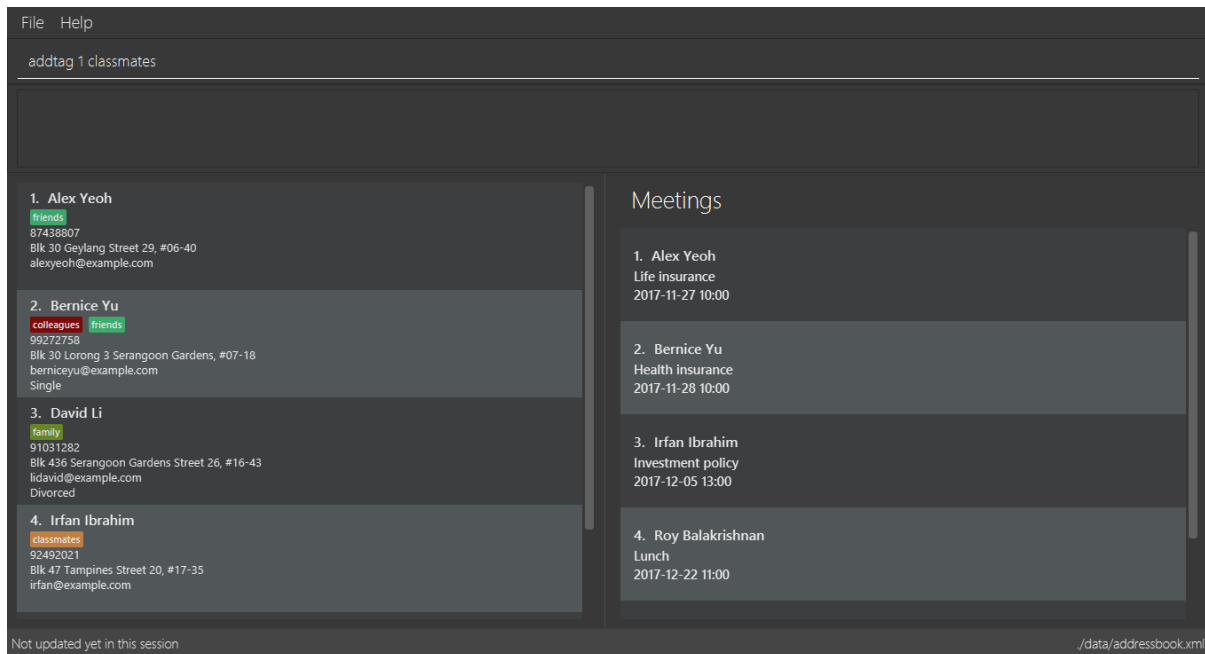


Figure 4.8.1

3. Press `kbd:[Enter]` and you should see that the contact selected has been modified (See Figure 4.8.2)

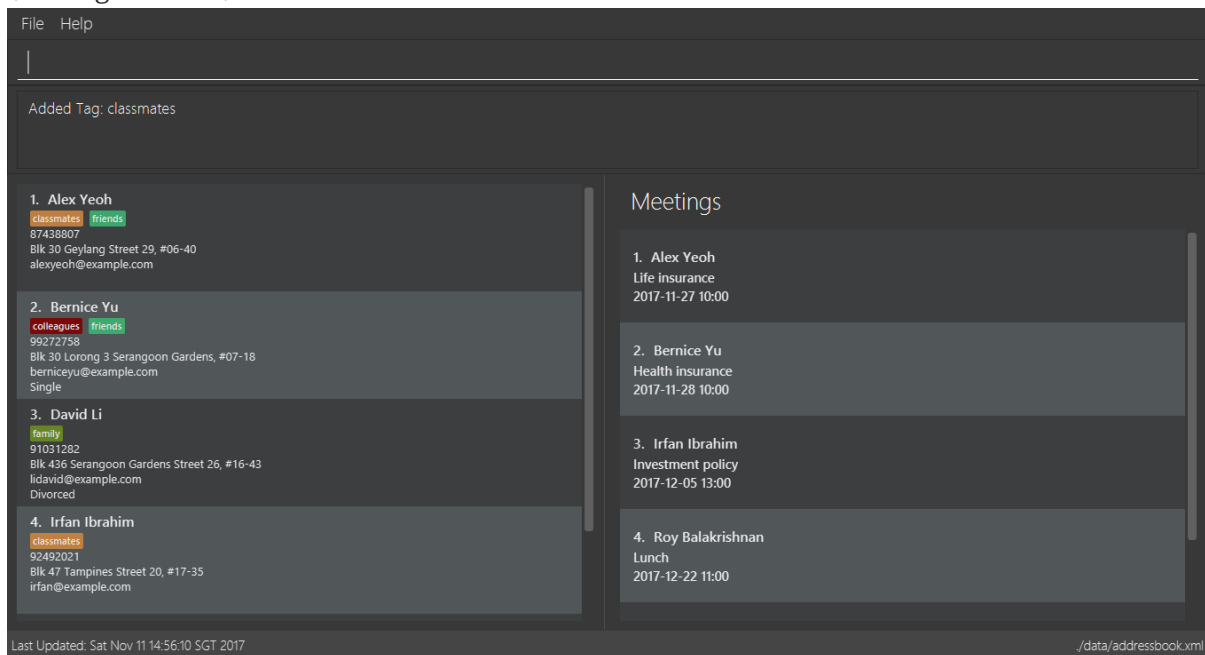


Figure 4.8.2

You can also add tags to a contact in a filtered list:

- `>> find t/friends`
`>> addtag 2 friends`
 Adds the `friends` tag to the 2nd person from the result of the `find` command.
- `>> find n/John`
`>> at 1 9pmclass`
 Adds the `9pmclass` tag to the 1st person from the result of the `find` command.

Deleting a tag : deletetag

Command Name: **deletetag**

Shorthand Alias: **dt**

Function: Deletes the specified tag from a specified person or all persons in your **ABC**

Format: **deletetag INDEX TAG**

If you want to delete a single tag from a contact in your **ABC**:

1. Locate the contact you want to delete a tag from and take note of its index
2. Type in the index of the contact and the tag you wish to delete

>> deletetag 1 classmates

(See Figure 4.9.1)

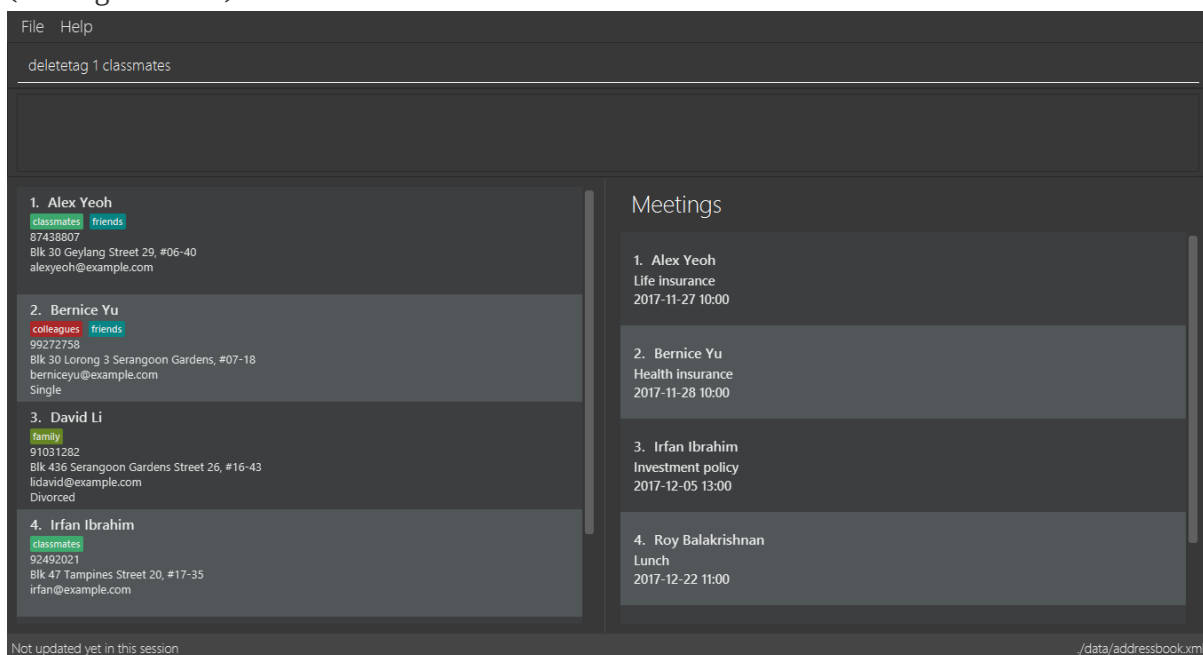


Figure 4.9.1

3. Press kbd:[Enter] and you should see that the contact selected has been modified
(See Figure 4.9.2)

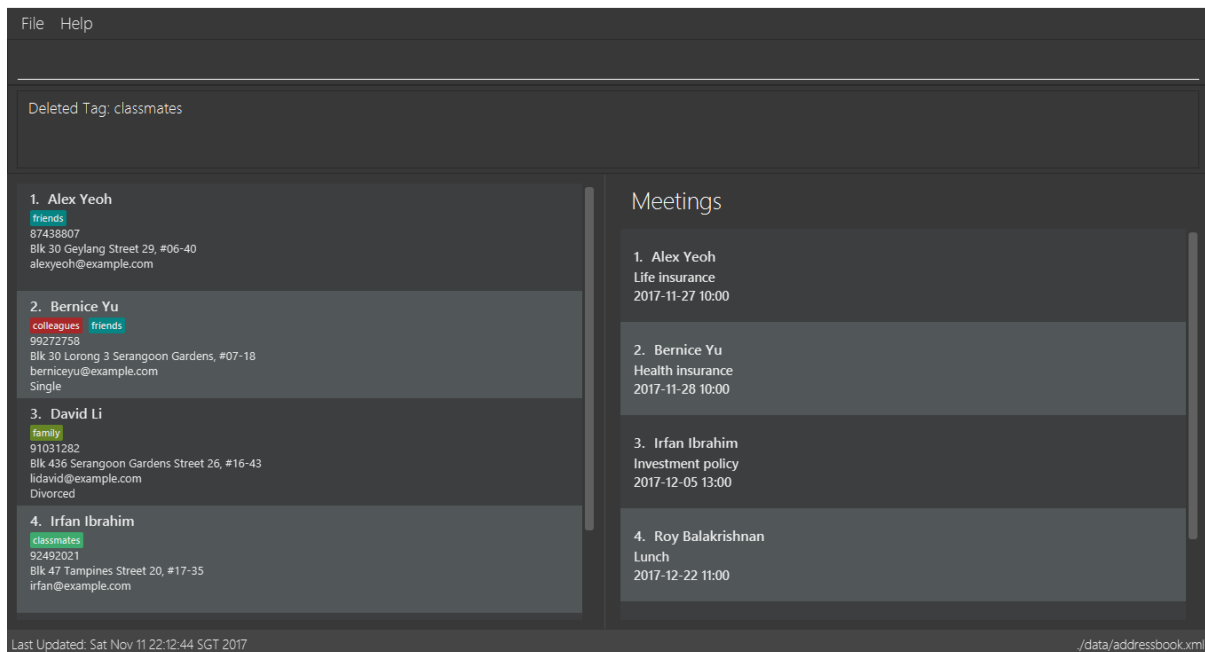


Figure 4.9.2

You can also delete tags from a contact in a filtered list:

- `>> find t/friends`
`>> deletetag 2 friends`
 Deletes the `friends` tag from the 2nd person from the result of the `find` command.
- `>> find n/John`
`>> dt 1 9pmclass`
 Deletes the `9pmclass` tag from the 1st person from the result of the `find` command.

If you would like to delete all instances of a particular tag from your **ABC**:

1. Type in `all`, followed by the tag you wish to delete

`>> deletetag all friends`

(See Figure 4.9.3)

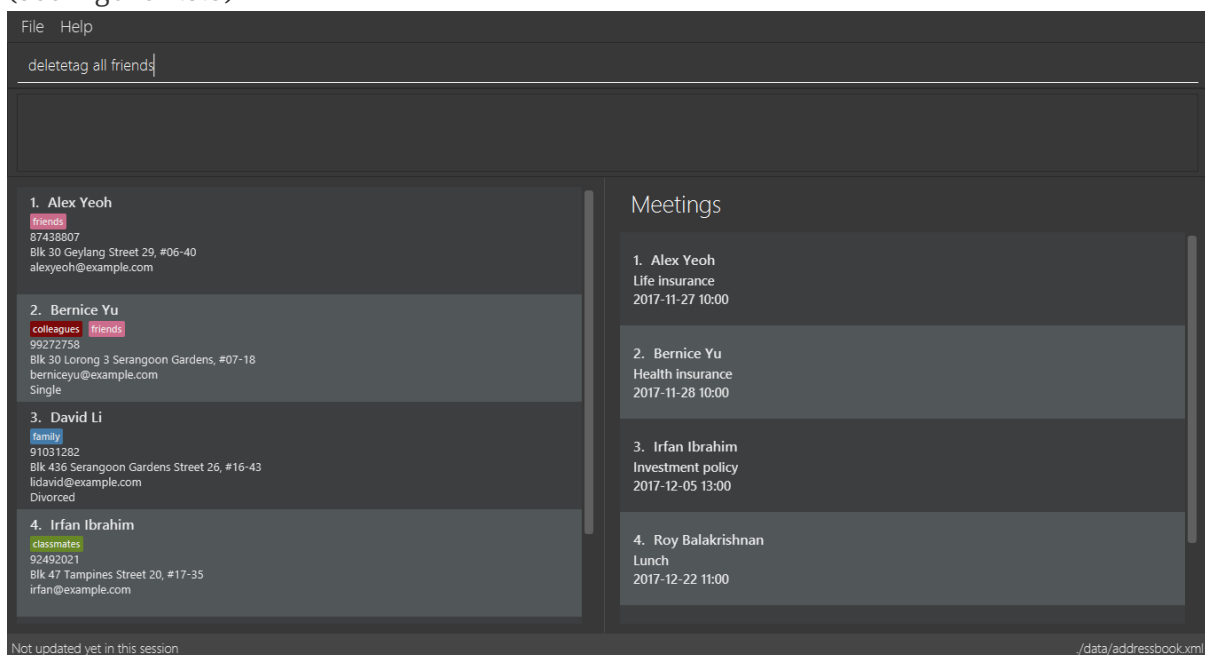


Figure 4.9.3

2. Press kbd:[Enter] and you should see that this tag has been deleted from all contacts (See Figure 4.9.4)

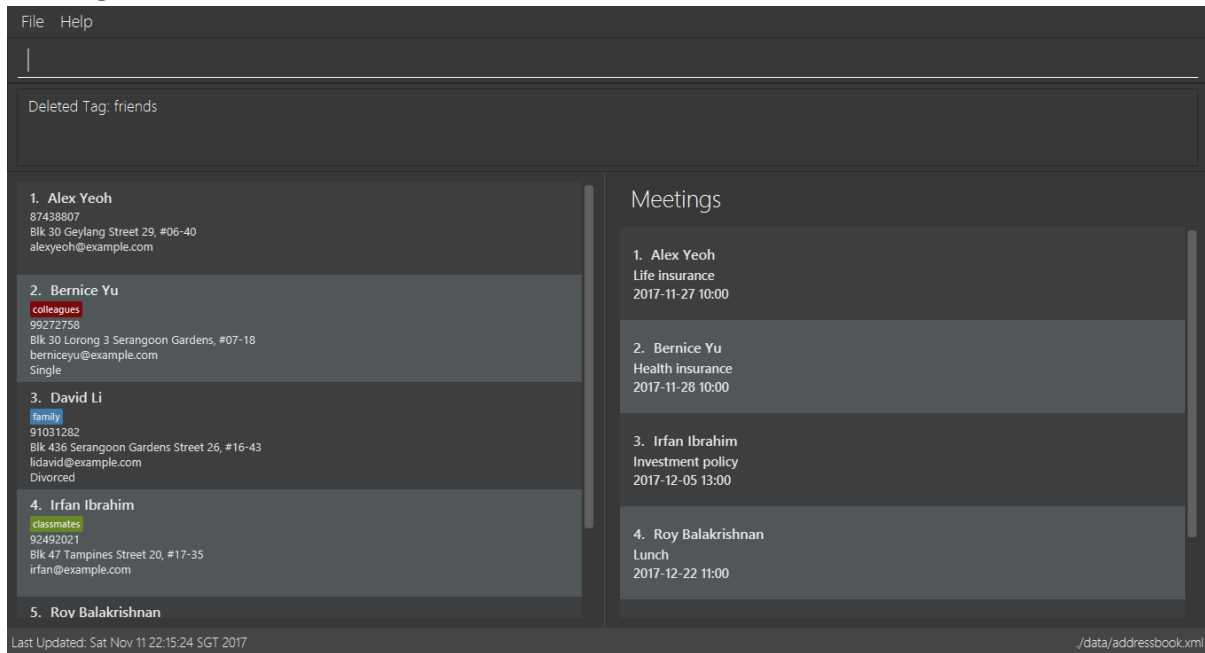


Figure 4.9.4

End of Extract

Justification

Users cannot add and delete tags easily using the edit function, as this resets all tag attached to the person. As such, a convenient way to add and delete tags would be useful for many users.

Implementation

Start of Extract [from: Developer Guide]

Adding/Removing a tag

Mechanism

Adding or removing a tag is facilitated by `AddTagCommand` and `DeleteTagCommand`, which are subclasses of `UndoableCommand`. These commands work by changing the value of the `Tag` objects associated with the contact.

These commands take in an integer and a string as arguments. The command is first parsed in `AddressBookParser` to identify it as the appropriate command. It will then be parsed by `AddTagCommandParser` or `DeleteTagCommandParser`, to parse the index, which was the integer argument, and the `Tag`, which was represented by the string argument. Invalid indexes and tags will be handled by throwing an exception. This is how `AddTagCommandParser` is implemented:

```

public class AddTagCommandParser implements Parser<AddTagCommand> {
    public AddTagCommand parse(String args) throws ParseException {
        try {
            // ... parse 'Index' and 'Tag' and pass it to 'AddTagCommand' ...
        } catch (IllegalValueException ive) {
            // ... throw an exception ...
        }
    }
}

```

To update the **Tag** objects associated with a **Person**, the set of **Tag** objects belonging to that **Person** is copied to a new set. The new data is then modified, then copied into a newly created **Person** instance. This is implemented as follows:

```

public class AddTagCommand extends UndoableCommand {
    // ... variables, constructor, other methods ...
    private final Tag newTag;

    @Override
    public CommandResult executeUndoableCommand() throws CommandException {
        // ... fetch personToEdit ...

        Set<Tag> oldTags = new HashSet<Tag>(personToEdit.getTags());
        // ... check if tag is duplicated ...
        Person editedPerson = new Person(personToEdit);
        oldTags.add(newTag);
        editedPerson.setTags(oldTags);

        // ... try to replace personToEdit with editedPerson ...
    }
}

```

The diagram below (Figure 3.3.1.1) shows how **AddTagCommand** works.

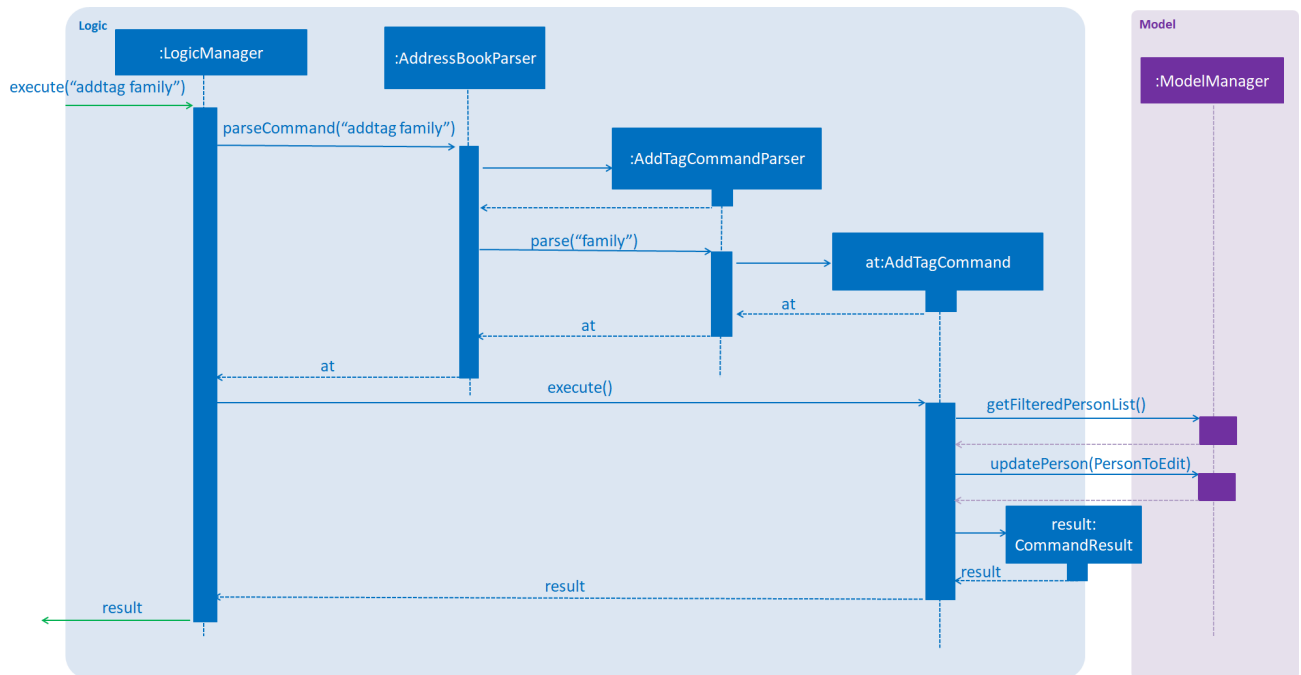


Figure 3.3.1.1 : AddTag Command Sequence Diagram

RemoveTagCommand works in a similar way. Note that **AddTagCommand** will throw an exception if the **Tag** already exists for the **Person** selected. **DeleteTagCommand** throws an exception if the **Tag** is not found on the **Person**.

Design Considerations

Aspect: Changing the **Tag** objects of the selected **Person**

Alternative 1 (current choice): Copy set of **Tag** objects to a newly created set and modify the newly created set, then create a copy of the selected **Person** instance and replace its set of **Tag** objects

Pros: Ensures that the original value will be unchanged, which is important in the event that updating the **Person** instance fails in a later stage.

Cons: Additional memory required to create a new **Person** instance.

Alternative 2: Edit the **Tag** set directly

Pros: No need to instantiate new **Person** instance. Easy to implement.

Cons: Problematic implementation and bad coding practice. Modifying the original values directly can cause problems if updating the **Person** instance fails in a later stage.

End of Extract

Enhancement Added: AddMeeting/DeleteMeeting

External behavior

Start of Extract [from: User Guide]

Adding a meeting to a person : **addmeeting**

Command Name: **addmeeting**

Shorthand Alias: **am**

Function: Adds a meeting to a specified person in your **ABC**

Format: **addmeeting MEETING_NAME/MEETING_TIME**

NOTE

MEETING_TIME must be in the format YYYY-MM-DD HH:MM

If you want to add a meeting to a contact in your **ABC**:

1. Locate the contact you want to add a meeting to and take note of its index
2. Type in the index of the contact, the name of the meeting and the time of the meeting you wish to add

```
>> addmeeting 1 class lunch/2017-11-20 12:00
```

(See Figure 4.10.1)

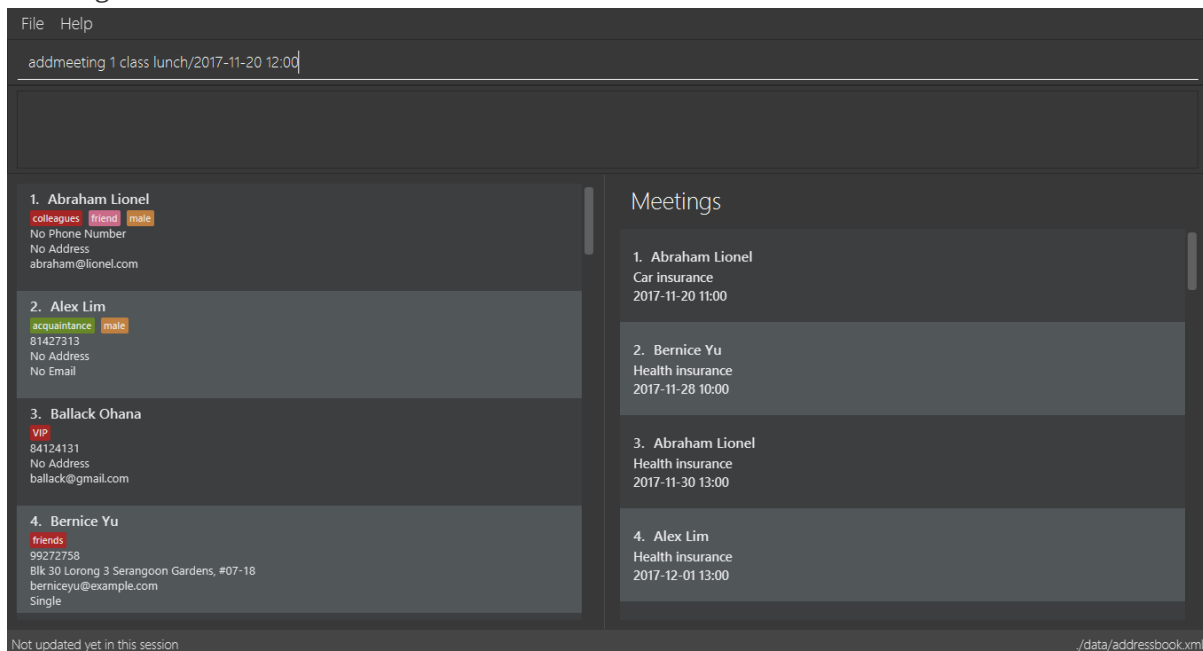


Figure 4.10.1

3. Press kbd:[Enter] and you should see that the contact that you selected has been modified (See Figure 4.10.2)

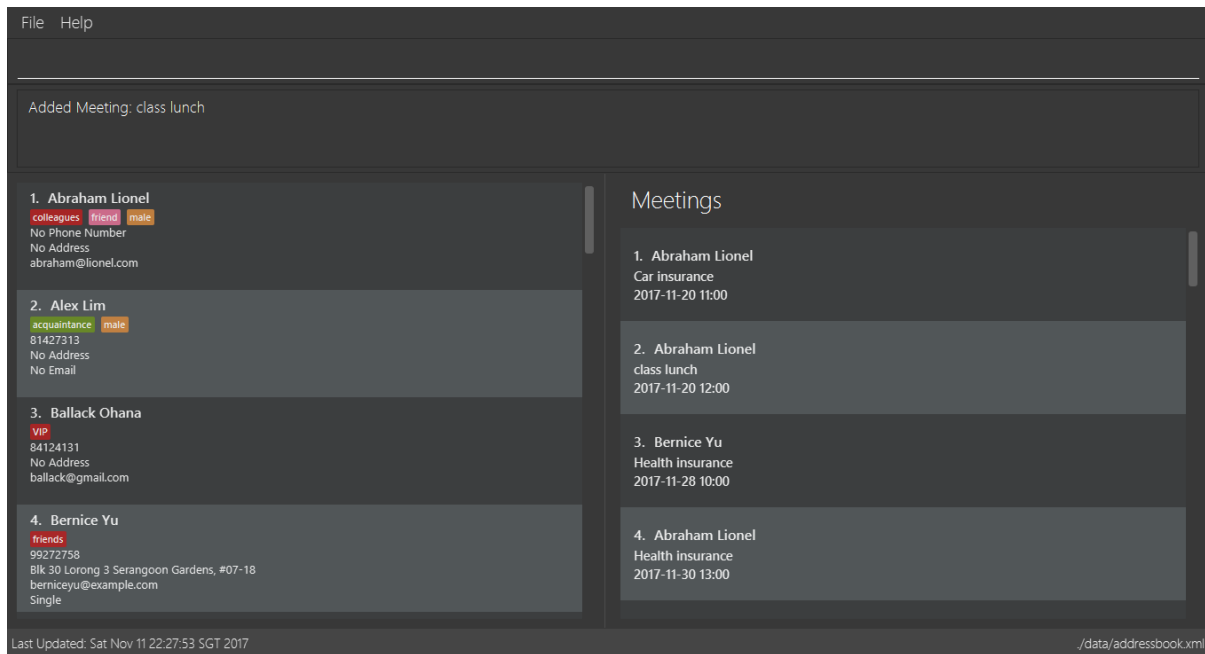


Figure 4.10.2

You can also add meetings to a contact in a filtered list:

- `>> find t/friends`
`>> addmeeting 2 breakfast/2017-12-15 10:00`
Adds a meeting named `breakfast` at `2017-12-15 10:00` to the 2nd person from the result of the `find` command.

Deleting a meeting : deletemeeting

Command Name: **deletemeeting**

Shorthand Alias: **dm**

Function: Deletes the specified meeting in the meeting list from your **ABC**

Format: **deletemeeting INDEX**

If you want to delete a meeting in your **ABC**:

1. Locate the meeting you want to delete and take note of its index
2. Type in the index of the meeting to be deleted

>> deletemeeting 1

(See Figure 4.11.1)

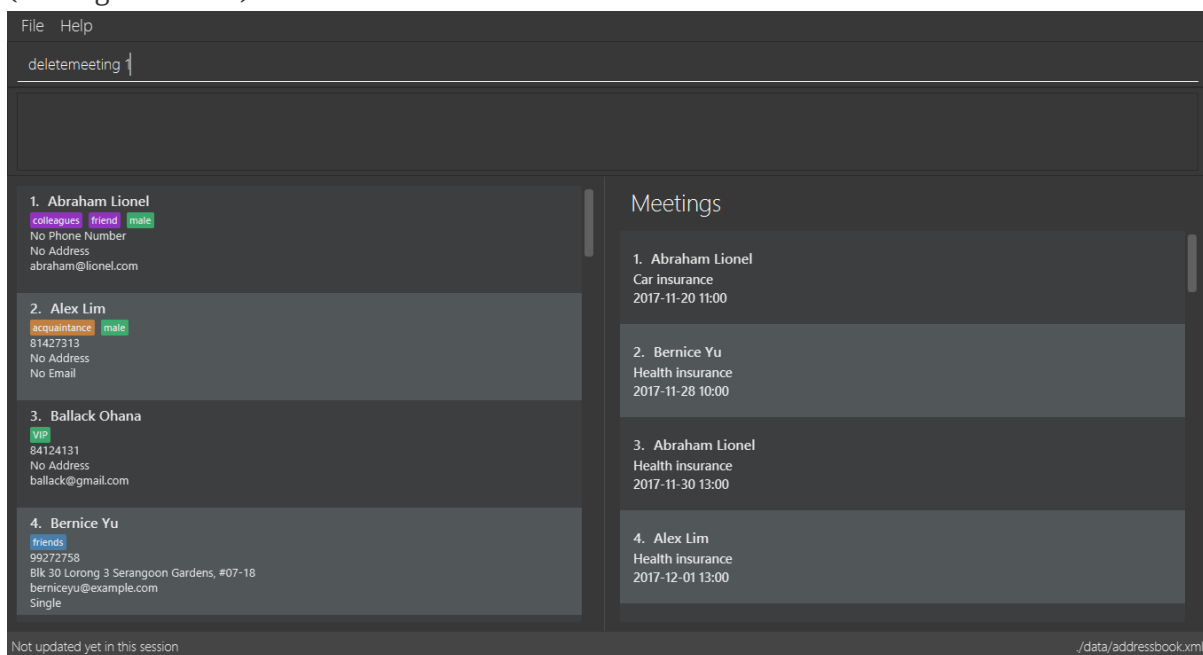


Figure 4.11.1

3. Press kbd:[Enter] and you should see that the selected meeting has been deleted
(See Figure 4.11.2)

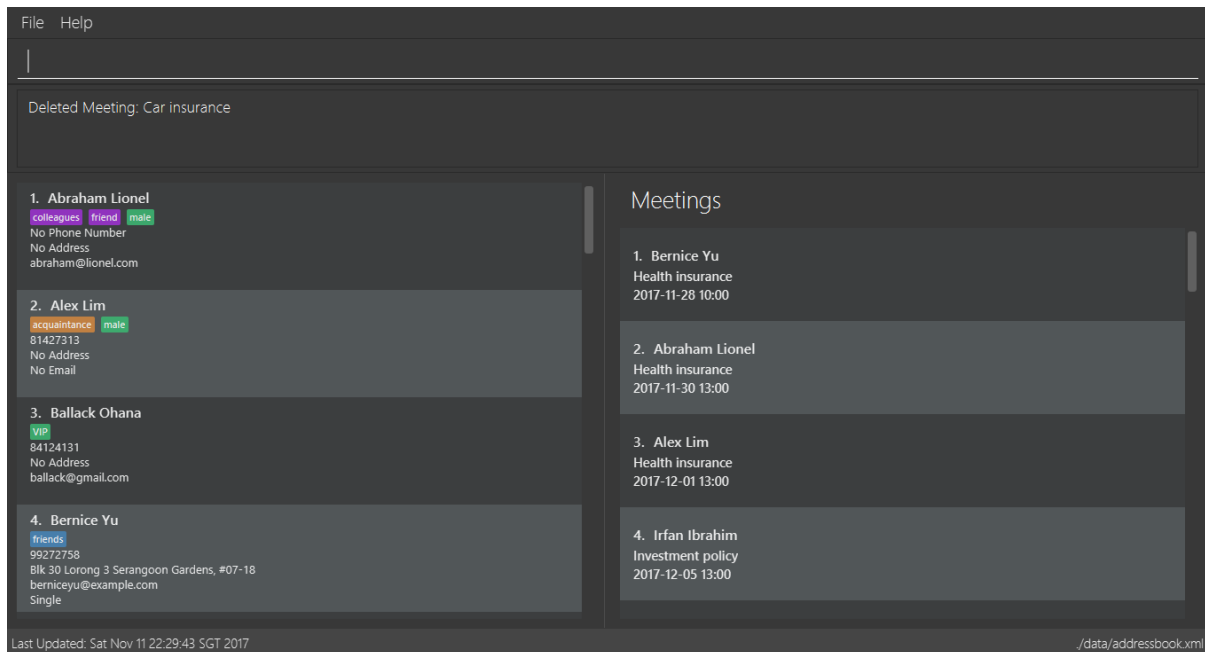


Figure 4.11.2

You can also delete a contact in a filtered list:

- `>> list`
`>> deletemeeting 2`
Deletes the 2nd meeting in **ABC**.
- `>> find n/Betsy`
`>> deletemeeting 1`
Deletes the 1st meeting from the result of the **find** command.
- `find t/friends`
`>> dm 4`
Deletes the 4th meeting from the result of the **find** command.

End of Extract

Justification

Businessmen frequently need to arrange meetings. This allows them to add meetings to specific people. They are also able to delete the meeting if it has been cancelled or has already passed.

Enhancement Added: Sort

External behavior

Start of Extract [from: User Guide]

Sorting contact list: **sort**

Command Name: **sort**

Shorthand Alias: **s**

Function: Sorts the contact list in alphabetical order by a given **FIELD**

Format: **sort FIELD**

NOTE Only one **FIELD** (**NAME**, **PHONE**, **ADDRESS**, **EMAIL**, **TAG**, **MEETING**) can be used at a time

NOTE For fields with multiple entries (**TAG**, **MEETING**), contacts will be sorted based on the entry that comes first alphabetically

If you would like to sort your contact list:

1. Type in the **FIELD** to sort your contact list by

>> sort name

(See Figure 4.5.1)

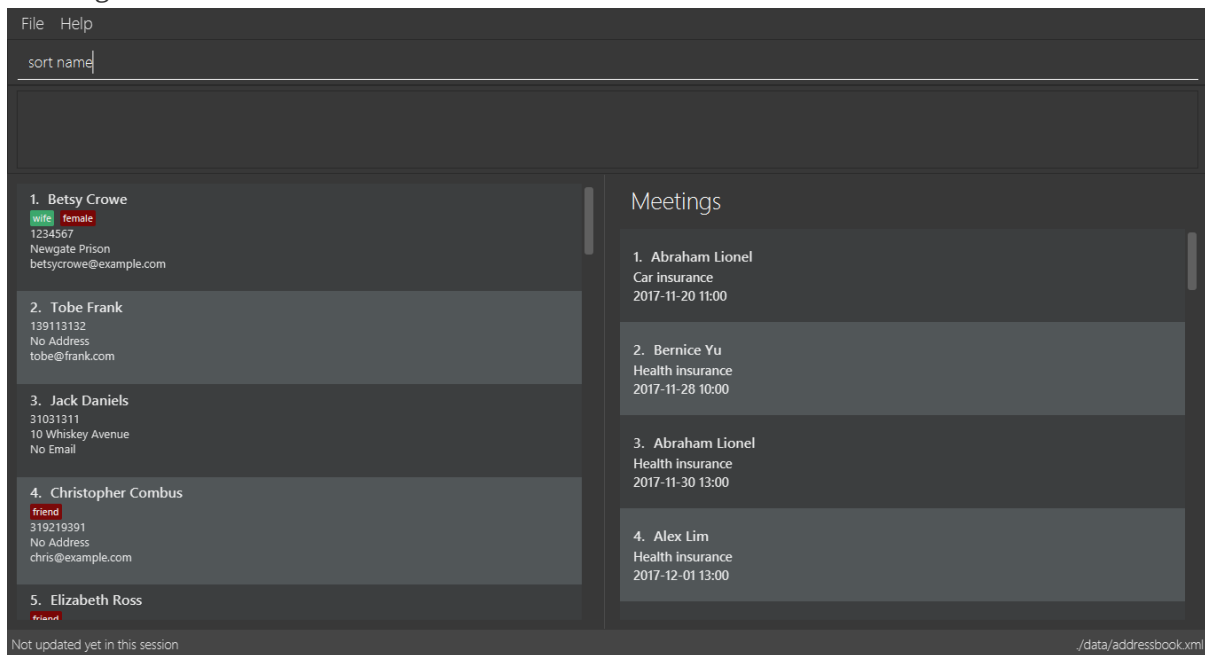


Figure 4.5.1

2. Press kbd:[Enter] and your contact list will be sorted
(See Figure 4.5.2)

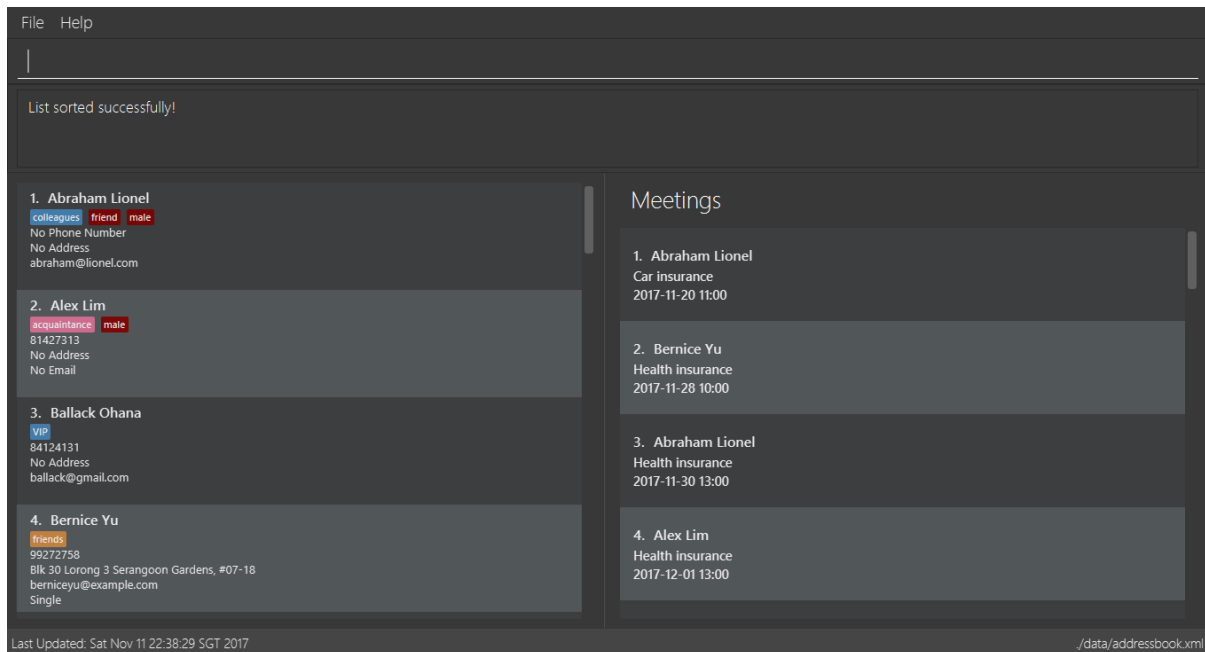


Figure 4.5.2

Here are some other ways to sort your contact list:

- **>> sort phone**
Sorts the contact list by phone number.
- **>> s tag**
Sorts the contact list by tag.
- **>> sort meeting**
Sorts the contact list by meeting time.

End of Extract

Justification

As a user with many contacts, it can be difficult to find someone in your ABC. As such, the sort command allows users to arrange their contact in the way that is most convenient for them, whether it be name, phone, address, or even meeting time.

Enhancement Proposed: Automatic checking of date

ABC should be able to automatically delete meetings once the date has passed. The meetings should also be colour coded based on how close it is to the time of the meeting, so that users can see immediately at a glance how soon their next meetings are.

Other contributions

- Updated various commands to work correctly with meetings (Pull requests [#124](#), [#125](#))
- Updated sort command to move contacts with empty fields to the back of the list (Pull request [#121](#))

- Discovered bugs during acceptance testing (Issues [#95](#), [#102](#))