

Design Document

S3622026

BOCHUAN ZHU

Contribution: 100% BOCUAN ZHU

Introduction:

I have five classes in total.(Driver, Run, Accounts, Method, MiniNet).

In details:

MiniNet class: Includes Main method and it responsible for running the program.

Method class : Belongs to a interface, it defines some method, such as setName(), getName(), setStatus() and so on.

Accounts class: Implements the Method interface, and it really define the method and set several arrays to store the relationship, such as friends, parents, children.(in here, I use fix arrays to store the data.)

Run class: In this class, I define several initial accounts for test. And in this class , I also instant account as Account class object.

Driver class: this class set the menu and define some methods to deal with different decisions depending on different choices.

Question and Response:

1. Explain how your design will be able to store the profile information.

R: I use several arrays and values to store personal information, then I create account as a object to use these information. In this case, each account can be regarded as a individual and they have independent information.

2. Explain how your class hierarchy will facilitate the network management.

R: I instant different object in different class in order to use different data. And I define a interface named to define some methods which I will use later.

3. Explain the process by which your program can maintain the networks and find connections more efficiently.

R: I use Driver and Account class to achieve this function. I use arrays to store individual relationship information and use object to extract these information. In these arrays(belongs to each account), there are complex relationship data.

Input and result in certain scenarios and circumstance:

For test, I have initialed some accounts(people) in my code.

There are four people:

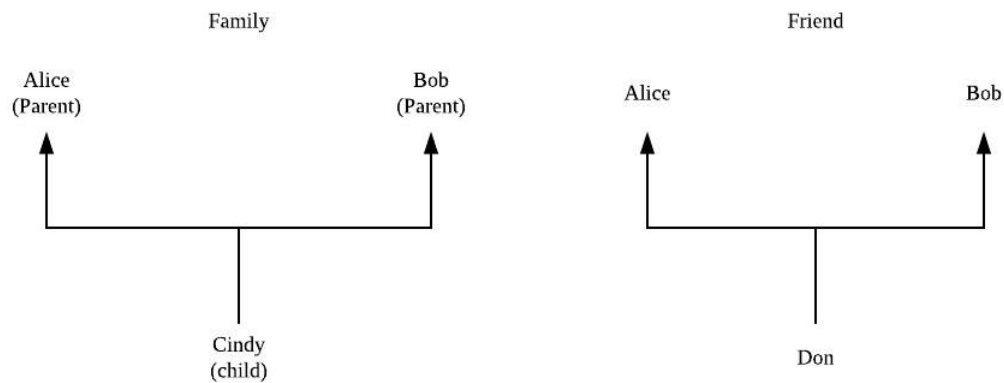
Alice: 40 years old

Bob: 40 years old

Don: 20 years old

Cindy: 10 year old

These graphs show their relationship:



In the first graph, Alice and Bob are Cindy's parents, In the second graph, Alice and Bob have a common friend name Don.(In my code, I think Alice and Bob are not direct friend, although Alice and Bob are couple).

Ok, there are my code background. Let's input some data.

1. run the program and list all of people

```
MiniNet (1) [Java Application] C:\Program Files\Java\jre1.8.0_161\  
MiniNet Menu  
  
=====
```

- 1.List everyone
- 2.Select a person
- 3.Are these two direct friends?
- 4.Add a person into network
- 5.help
- 6.Exit

Enter an option:__

This is the main page. Now, I choose “1” to have a look.

```
Enter an option:__  
1  
Here are all of the people:  
Alice  
Bob  
Cindy  
Don  
MiniNet Menu  
  
=====
```

It list all of people. (I pre-defined before).

2. add a person

Now, I want to add a person into the network who named Tony and aged 8.

```
Enter an option:___
4
Enter name:___
Tony
account is created.
enter age:___
8
age is 8
set gender:___
m
set your status:___
null
status is: null
your account name is: Tony
your account age is: 8
your account gender is: m
your account status is: null

your age is under the 16 years old
your must linked with two adults
These are all of people:
Alice
Bob
Cindy
Don
Tony
enter parents1 name:
```

It tells me the age is under the 16 and Tony must linked with two adults.

3. add a person aged 2

Ben is a boy who is 2 years old.

```
.
Enter name:___
Ben
account is created.
enter age: _
2
age is 2
set gender: _
m
set your status: __
This is Ben
status is: This is Ben
your account name is: Ben
your account age is: 2
your account gender is: m
your account status is: This is Ben

you age is under the 2 years old
you cannot add any friend
you must link two adults
These are all of people:
Alice
Bob
Cindy
Don
Ben
enter parents1 name:
```

Ben also need linked two adults, and he cannot add any friends.

4. add friend

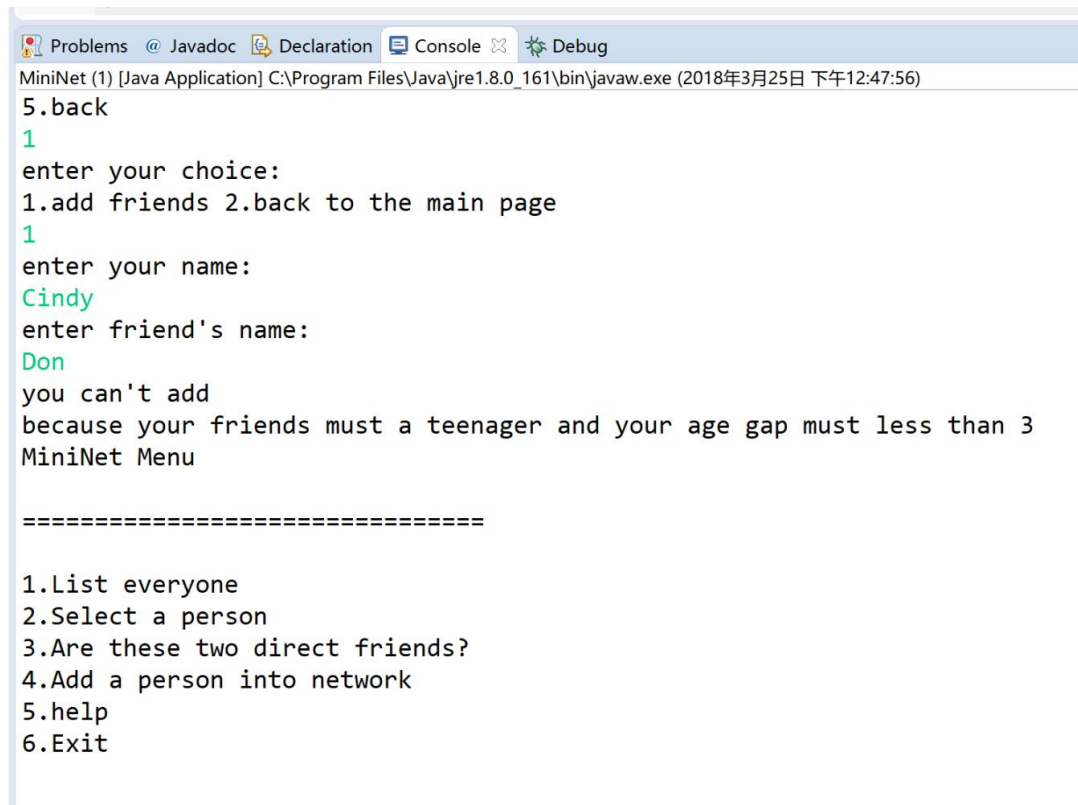
Cindy is 10 years old (pre-defined), Don is 20 years old. Now, I try to add Don as Cindy's new friend.

```
1.List everyone
2.Select a person
3.Are these two direct friends?
4.Add a person into network
5.help
6.Exit

Enter an option:___
2
enter the name you want to search
Cindy
name is found
---- profile----
Name: Cindy
Age: 10
Gender: null
Status: null
Children:
Friends:
Parents:
Alice
Bob
enter your choice:
1.add friends
2.add child
3.add parents
4.list friends
5.back
```

First, I use “search” in the main page. And enter Cindy as a name. It show me “name is found”. And we can see Cindy’s parent is Alice and Bob.

And I choose 1 to add a friend.



```
Problems @ Javadoc Declaration Console Debug
MiniNet (1) [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (2018年3月25日 下午12:47:56)
5.back
1
enter your choice:
1.add friends 2.back to the main page
1
enter your name:
Cindy
enter friend's name:
Don
you can't add
because your friends must a teenager and your age gap must less than 3
MiniNet Menu

=====

1.List everyone
2.Select a person
3.Are these two direct friends?
4.Add a person into network
5.help
6.Exit
```

Because Don is 20 years old, Cindy is 10, she can't add him as a friend.

5. judge direct friend

I try to judge Alice and Don, Don and Bob, Alice and Bob(regard second relationship graph).


```
MiniNet (1) [Java Application] C:\Program Files\Java\jre1.8.0_161\bin\javaw.exe (2018年3月25日 下午12:47:56)
enter friend's name:
Don
you can't add
because your friends must a teenager and your age gap must less than 3
MiniNet Menu

=====

1.List everyone
2.Select a person
3.Are these two direct friends?
4.Add a person into network
5.help
6.Exit

Enter an option:___
3
Enter the first person name:
Alice
Enter the second person name:
Don
Don
they are direct friends
MiniNet Menu
```

correct!

```
Enter an option:___
3
Enter the first person name:
Alice
Enter the second person name:
Bob
Don
they aren't direct friends
MiniNet Menu

=====

1.List everyone
2.Select a person
3.Are these two direct friends?
4.Add a person into network
5.help
6.Exit
```

Correct!

6.Exit

Enter an option:___

3

Enter the first person name:

Bob

Enter the second person name:

Don

Don

they are direct friends

MiniNet Menu

=====

Correct!

Until I have tested all of functions. And in the main page, there are “help” and “exit” functions.

One more thing: Although I design some method to deal with error input, I advice users to take care of input, especially uppercase and lowercase. Because I maybe forget add methods to deal with “error input” in someplace. If any error happened because of error input and program can’t deal with it, please try to run it again. If you enter the error input in the menu page, is ok, the menu will let you try again. :)

Design Diagram:

