

java技术第三次上机报告

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Assignment:PIMCollection class

- 1 Requirement:
 - This project involves the creation of a custom collection object that can be used to manage PIMEntities (from HW2). You must create a class named PIMCollection that implements the interface Collection. In addition to being a Collection, your class must implement the following methods:
 - public Collection getNotes():
 - getNotes() returns a Collection that holds all the PIMNote items currently in the PIMCollection. If there are no PIMNote items in the PIMCollection, this method should return an empty Collection. Note that it is not specified exactly what implementation of a Collection is returned (that's up to you), just that whatever is returned implements the Collection interface.
 - public Collection getTodos()
 - public Collection getAppointments()
 - public Collection getContact()
 - public Collection getItemsForDate(Date d)
- 2 Process and key point:
 - I extend the ArrayList and realize five function.

```
public class PIMCollection extends ArrayList<PIMEntity>
{
    ...
}
```

- To get the PIMNote from the collection(item instanceof PIMNote)

```
public ArrayList<PIMNote> getNotes()
{
    ArrayList<PIMNote> temp = new ArrayList<PIMNote>();
    for(PIMEntity item : this)
    {
        if(item instanceof PIMNote)
        {
            temp.add((PIMNote)item);
        }
    }
    return temp;
}
```

- To get the PIMTodo from the collection

```
public ArrayList<PIMTodo> getTodos()
{
    ArrayList<PIMTodo> temp = new ArrayList<PIMTodo>();
    for(PIMEntity item : this)
    {
        if(item instanceof PIMTodo)
        {
            temp.add((PIMTodo)item);
        }
    }
    return temp;
}
```

- To get the PIMAppointment from the collection

```
public ArrayList<PIMAppointment> getAppointments()
{
    ArrayList<PIMAppointment> temp = new ArrayList<PIMAppointment>();
    for(PIMEntity item : this)
    {
        if(item instanceof PIMAppointment)
        {
            temp.add((PIMAppointment)item);
        }
    }
    return temp;
}
```

- To get the PIMContact from the collection

```
public ArrayList<PIMContact> getContacts()
{
    ArrayList<PIMContact> temp = new ArrayList<PIMContact>();
    for(PIMEntity item : this)
    {
        if(item instanceof PIMContact)
        {
            temp.add((PIMContact)item);
        }
    }
    return temp;
}
```

- To get the PIM with the same date from the collection

```

public ArrayList<PIMEntity> getItemsForDate(Date d)
{
    ArrayList<PIMEntity> temp = new ArrayList<PIMEntity>();
    for (PIMEntity item : this)
    {
        if((item instanceof PIMDate) && ((PIMDate)item).GetDate().equals(d
    ))
        {
            temp.add(item);
        }
    }
    return temp;
}

```

- With these function,user can get the information he want to know from the System.

- 3 Test code

```

public static void main(String[] args)
{
    PIMCollection c = new PIMCollection();
    c.add(new PIMTodo("Todo1", "04/20/2017"));
    c.add(new PIMTodo("Todo2", "04/21/2017"));
    c.add(new PIMNote("Note1"));
    c.add(new PIMNote("Note2"));
    c.add(new PIMAppointment("Appo1", "04/20/2017"));
    c.add(new PIMAppointment("Appo2", "04/21/2017"));
    c.add(new PIMContact("old", "john"));
    c.add(new PIMContact("elegant", "lady"));

    ArrayList<PIMTodo> Todos = c.getTodos();
    for (PIMTodo item : Todos)
    {
        System.out.println(item.getClass().toString());
        System.out.println(item.toString());
    }
    ArrayList<PIMNote> Notes = c.getNotes();
    for (PIMNote item : Notes)
    {
        System.out.println(item.getClass().toString());
        System.out.println(item.toString());
    }
    ArrayList<PIMContact> Contacts = c.getContacts();
    for (PIMContact item : Contacts)
    {
        System.out.println(item.getClass().toString());
        System.out.println(item.toString());
    }
    ArrayList<PIMAppointment> Appointments = c.getAppointments();
    for (PIMAppointment item : Appointments)
    {
        System.out.println(item.getClass().toString());
        System.out.println(item.toString());
    }

    Date date = c.transdate("04/20/2017");

    ArrayList<PIMEntity> times = c.getItemsForDate(date);

    for (PIMEntity item : times)
    {
        System.out.println(item.getClass().toString());
        System.out.println(item.toString());
    }
}

```

- 4 Test result

- User can get the PIMTodo,PIMNote,PIMContact,PIMAppointment and the information with the same date.

```
Documents/javahomework/hw3 master x 4d
▶ java PIMCollection
class PIMTodo
TODO normal 04/20/2017 Todo1
class PIMTodo
TODO normal 04/21/2017 Todo2
class PIMNote
NOTE normal Note1
class PIMNote
NOTE normal Note2
class PIMContact
CONT normal old john null
class PIMContact
CONT normal elegant lady null
class PIMAppointment
APPO normal 04/20/2017 Appo1
class PIMAppointment
APPO normal 04/21/2017 Appo2
class PIMTodo
TODO normal 04/20/2017 Todo1
class PIMAppointment
APPO normal 04/20/2017 Appo1
```

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