



## iOS Messaging

**Due Date:** Wednesday, December 2nd, 2020, 11:59 PM

iMessage  
Today 9:38 AM

Can I call you back later? I'm at  
an appointment.

**Objective:** The goal of this assignment is to practice objects.

**Background:** Objects represent real world objects. They have states and behaviors (An object is an instance of a class, where a class is a blueprint that describes the behavior that the object of its type supports).

**Assignment:** In this assignment you will create a contact list and display the following:

- > A list that shows the full name of Contacts of the user

Once you display the name of each Contact, you will ask the user to select whose message to view.

The message will contain the Date and Time it was received, followed by the text message itself.

When the message is revealed, you will ask the user if they would like to view the phone number for that specific Contact. If yes, display the phone number for the chosen Contact object, otherwise continue the program.

Lastly, you will ask the user if they would like to view another message. If yes, repeat this process, otherwise, exit the program.

**NOTE:** You will be provided with a skeleton for each class

1. Your task is to create three classes related to text messaging:
  - a. You will create an object called **Contact** that will contain the following attributes:
    - i. **First Name:** The first name of the Contact
    - ii. **Last Name:** The last name of the Contact
    - iii. **Phone Number:** The phone number of the Contact. [Format: **###-###-####**]
    - iv. **Message:** This will store the Message object  
**[This will store one message object]**
  - b. You will create an object called **Message** that will contain the following attributes:
    - i. **Text:** The actual text message that was sent by the Contact
    - ii. **Month:** The month the text message was received
    - iii. **Day:** The day the text message was received
    - iv. **Time:** The time the text message was received. [Format: **HH:MM**]
    - v. **Time of Day:** Whether the message was sent in AM or PM
  - c. You will create a main class called **Notification** and will do the following:
    - i. You will create four Contact objects that are shown in the tables below on the next page. These contact objects will be saved in an array of Contact [].  
**[NOTE: Two Contact objects must be assigned using setters, the other two must be assigned using the constructor].**

## CONTACT

First Name	Last Name	Phone No.	Message
Daniel	Mejia	915-123-4567	Object
Ali	Nouri	915-891-0111	Object
Paola	Terrazas	915-213-1415	Object
Cynthia	Sustaita	915-161-7181	Object

## MESSAGE

Text	Month	Day	Time	Time of Day
So, what is your favorite Disney Character?	11	19	07:10	PM
Are you going to be eating frozen pizza again tonight?	11	20	12:30	PM
I just saw this Friend's lipstick and thought of you!:D	11	18	01:25	PM
Don't forget that you owe me a matcha green tea latte!;)	11	21	03:35	PM

2. The user should be prompt for a username at the beginning of the program:

```
Please enter your username: user_name_here
```

```
Hello user_name_here, welcome to iMessage!
```

a.

3. The contacts should be created in the following way:

```
Creating a new contact..  
Please enter first name of the new contact..  
Daniel  
Please enter last name of the new contact..  
Mejia  
Please enter phone number of the new contact: [xxx-xxx-xxxx]  
915-123-4567  
When is the date of the message?  
Month: [1-12]  
11  
Day: [1-31]  
19  
Time: [xx:xx]  
07:10  
Time of Day: [AM/PM]  
PM  
What is the text of the meesage?  
So, what is your favorite Disney Character?
```

a.

4. You will display the first name of each Contact object in a menu format after creating your contacts.

- a. The user will select which Contacts message to view from the menu provided.

```
The following contacts sent you a message:
```

```
1. Daniel  
2. Ali  
3. Paola  
4. Cynthia
```

```
Please select a contact you would like to view [1-4]:
```

- b. Once the user selects the Contact, you will display the Day and Time the message was received as well as the text message itself.

```
Please select a contact you would like to view [1-4]:
```

```
2
```

```
Message From: Ali  
20 12:30 PM
```

```
Are you going to be eating frozen pizza again tonight?
```

- c. You will ask the user if they would like to view the phone number of the chosen Contact.

- If the user enters y, **display the phone number of the chosen contact**, and continue to part d, otherwise skip the purple instructions, and continue to part d.

```
Would you like to view the phone number? [y] Yes, [n] No  
y  
Phone Number: 915-891-0111
```

- d. You will ask the user if they would like to view a message from a different Contact.

- If the user would like to view another message, repeat step 2.

```
The following contacts sent you a message:  
1. Daniel  
2. Ali  
3. Paola  
4. Cynthia  
Please select a contact you would like to view [1-4]:
```

- Otherwise, print the following and end the program:

“Exiting iMessage application...”

“Done”

```
Would you like to view the phone number? [y] Yes, [n] No  
n  
Would you like to view another message? [y] Yes, [n] No  
n  
Exiting iMessage application...  
Done
```

\*\*\*\*\*Here's a complete example\*\*\*\*\*

- 1- Beginning of program:

```
Please enter your username: user_name_here  
  
Hello user_name_here, welcome to iMessage!
```

- 2- Contacts creation:

- a. Daniel Mejia:

```
Creating a new contact..  
Please enter first name of the new contact..  
Daniel  
Please enter last name of the new contact..  
Mejia  
Please enter phone number of the new contact: [xxx-xxx-xxxx]  
915-123-4567  
When is the date of the message?  
Month: [1-12]  
11  
Day: [1-31]  
19  
Time: [xx:xx]  
07:10  
Time of Day: [AM/PM]  
PM  
What is the text of the message?  
So, what is your favorite Disney Character?
```

b. Ali Nouri:

```
Creating a new contact..
Please enter first name of the new contact..
Ali
Please enter last name of the new contact..
Nouri
Please enter phone number of the new contact: [xxx-xxx-xxxx]
915-891-0111
When is the date of the message?
Month: [1-12]
11
Day: [1-31]
20
Time: [xx:xx]
12:30
Time of Day: [AM/PM]
PM
What is the text of the meesage?
Are you going to be eating frozen pizza again tonight?
```

c. Paola Terrazas:

```
Creating a new contact..
Please enter first name of the new contact..
Paola
Please enter last name of the new contact..
Terrazas
Please enter phone number of the new contact: [xxx-xxx-xxxx]
915-213-1415
When is the date of the message?
Month: [1-12]
11
Day: [1-31]
18
Time: [xx:xx]
01:25
Time of Day: [AM/PM]
PM
What is the text of the meesage?
I just saw this Friend's lipstick and thought of you!:D
```

d. Cynthia Sustaita:

```
Creating a new contact..
Please enter first name of the new contact..
Cynthia
Please enter last name of the new contact..
Sustaita
Please enter phone number of the new contact: [xxx-xxx-xxxx]
915-161-7181
When is the date of the message?
Month: [1-12]
11
Day: [1-31]
21
Time: [xx:xx]
03:35
Time of Day: [AM/PM]
PM
What is the text of the meesage?
Don't forget that you owe me a matcha green tea latte!;)
```

3- Menu display and selection:

```
The following contacts sent you a message:  
1. Daniel  
2. Ali  
3. Paola  
4. Cynthia  
Please select a contact you would like to view [1-4]:  
3  
Message From: Paola  
18 01:25 PM  
I just saw this Friend's lipstick and thought of you!:D  
Would you like to view the phone number? [y] Yes, [n] No  
n  
Would you like to view another message? [y] Yes, [n] No  
y  
The following contacts sent you a message:  
1. Daniel  
2. Ali  
3. Paola  
4. Cynthia  
Please select a contact you would like to view [1-4]:  
4  
Message From: Cynthia  
21 03:35 PM  
Don't forget that you owe me a matcha green tea latte!;)  
Would you like to view the phone number? [y] Yes, [n] No  
n  
Would you like to view another message? [y] Yes, [n] No  
n  
Exiting iMessage application...  
Done
```

**Deliverables:** Submit the following files to Blackboard: **[DO NOT SUBMIT THE .CLASS FILE]**

- (i) Notification.java --- the **java** file of your program.
- (ii) Contact.java – the **java** file of your program.
- (iii) Message.java – the **java** file of your program.

**Please make sure the file is well-commented/documentated.**

#### **Grading Criteria**

[100 points] Java program.

- [20 points] Program compiles and runs.
- [10 points] The program has correct logic and generates correct output.
- [45 points] Correct output for 2a, 2b, and 2c
  - [25] Correct creation of object classes
    - [10] Correct use of data types for all attributes
    - [10] Proper implementation of Setters/Getters
    - [5] Creates a `toString()` method for Contact and Message
  - [20] Correct use of user input and loops
    - [10] Correctly displays the correct information of the contact
      - [5] User can ask for phone number
      - [5] Program repeats if user wants to see menu again
    - [10] Correct Boolean logic in loops
- [5 points] The program uses variables and meaningful variable names.
- [10 points] The program is indented correctly.
- [10 points] The program uses comments to make the code readable.

**Late submission [-10] points for every 24 hours after the deadline.**

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#### **Potential Extra Credit:**

Combine the month, day, and time attributes of the Message class into a `TimeReceived` object.

#### **TimeReceived**

```
> month: int  
> day: int  
> time: String /* HH:MM */
```

If you need clarification, ask the TA. Your TA will instruct you with further details.