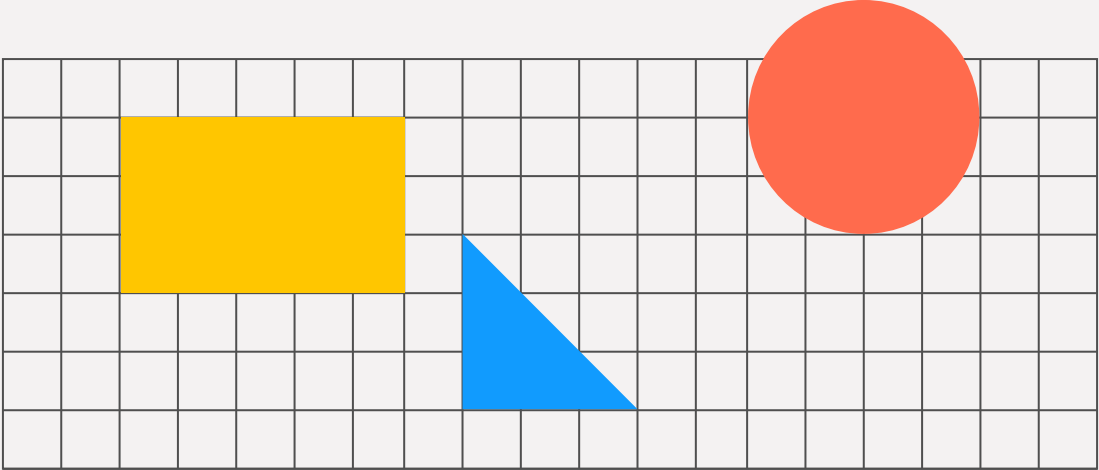


SC2002

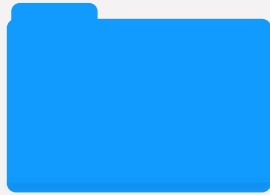
PROJECT

- Members:
- 1. GAY MING KAI
 - 2. LIANG QIAOYUN
 - 3. ADITI VASUDEVAN
 - 4. LEE HAN HUA

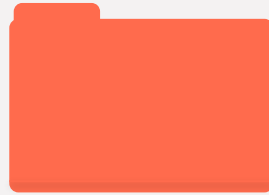




Design
Principles



Additional
Features

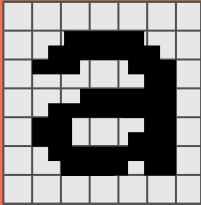


Base Code
Run-Through



Reflection

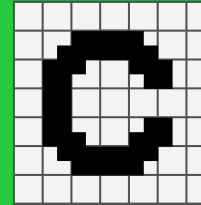
Design Patterns



BCE Framework

Decoupling of classes into

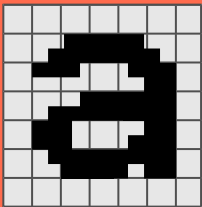
- Boundary
- Entity
- Controller



Factory Pattern

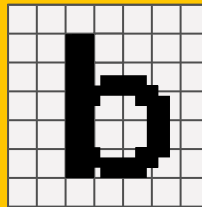
Encapsulate User creation by
processing different user types
without explicit knowledge

SOLID Principles



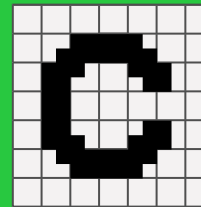
Single Responsibility Principle

Assigned single responsibility to classes of BCE Framework



Open/Closed Principle

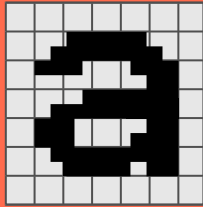
Our code allows for adding of new features in slide 6 without interfering with existing code



Liskov Substitution Principle

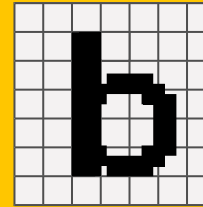
Staff can be substitutable by all its subclasses 'Doctor', 'Pharmacist' and 'Administrator'

SOLID Principles Cont.



Interface Segregation Principle

Implemented interfaces for UserUI and AppointmentUI



Dependency Injection Principle

depend on the <UserUI> interface instead of individual concrete classes of 'PatientUI', 'DoctorUI'

Additional Features

Register New Patient

Users can self register at the Hospital Start Page



Additional Features

Forget Password

A reset password request can be made anytime if Users forget their password, an Admin can then approve the request.



Forget Password

Enter your ID

P1001

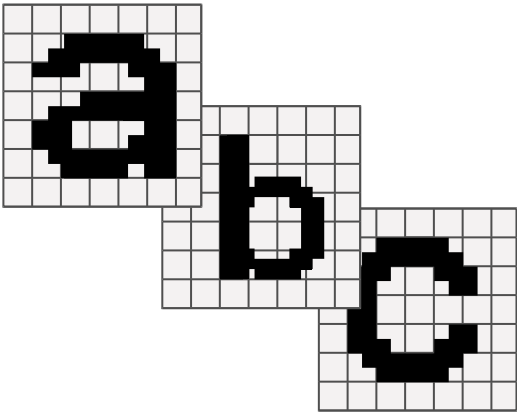
Reset password request has been submitted

Additional Features

Password Hashing

SHA3-256 : Password Hashing encrypted with
SHA3-256 algorithm to enhance security

```
P1001|Alice Brown|1980-05-14|Female|A+|alice.brown@example.com|5e884898da28047151d0e56f8dc6292773603d0d6aabbdd62a11ef721d1542d8
P1002|Bob Stone|1975-11-22|Male|B+|bob.stone@example.com|5e884898da28047151d0e56f8dc6292773603d0d6aabbdd62a11ef721d1542d8
P1003|Charlie White|1990-07-08|Male|O-|charlie.white@example.com|5e884898da28047151d0e56f8dc6292773603d0d6aabbdd62a11ef721d1542d8
P1004|Antonio|2000-05-06|Male|O|antonio@gmail.com|5e884898da28047151d0e56f8dc6292773603d0d6aabbdd62a11ef721d1542d8
```



Additional Features

Password Hashing

SHA3-256 : Password Hashing encrypted with SHA3-256 algorithm to enhance security

```
Staff Management Menu
1. View Staff
2. Add Staff
3. Remove Staff
4. Update Staff
5. Back
```

Additional Features

Backtracking

Allows users to return back to the menu at any point in time

```
=====
Bill ID: 2
Appointment ID: 1656734240
Amount: 145
Status: Unpaid
=====
```

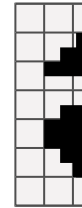
```
Do you want to pay the bill (Y/N)?
```

Additional Features

Billing



When an appointment is completed, the patient is billed based on appointment and medicine.



Additional Features

Colour Code

Every different role has a different colour associated to its UI

```
=====
Welcome Sarah Lee
Role: Administrator
=====
```

```
=====
Welcome Mark Lee
Role: Pharmacist
=====
```

```
=====
Welcome John Smith
Role: Doctor
=====
```

```
=====
Welcome Alice Brown
Role: Patient
=====
```

Role: Patient

A screenshot of an IDE (Eclipse) showing a Java application titled "Hospital_Management_System". The terminal output displays a welcome message, a logo, and a menu for user options. The application is running in a Java environment, as indicated by the status bar at the bottom showing "Java" and "UTF-8" encoding.

```
PS C:\Users\lhanh\OneDrive\Documents\WU\Y2S1\SC2802\Assignment\SC2802_Project\Hospital_Management_System> & "C:\Program Files\Eclipse Adoptium\jdk-17.0.12-hotspot\bin\java.exe" "-agentlib:jdwp=transport=dt_socket,server=true,address=8080" -XX:+ShowCodeDetailsInExceptionMessages "-cp" "C:\Users\lhanh\AppData\Roaming\Code\User\workspacestorage\bf2837a28ed21ed87ad3857cabafae7\redhat.java\jdk_us\Hospital_Management_System_6ez4ake2\lib\Hospital..."

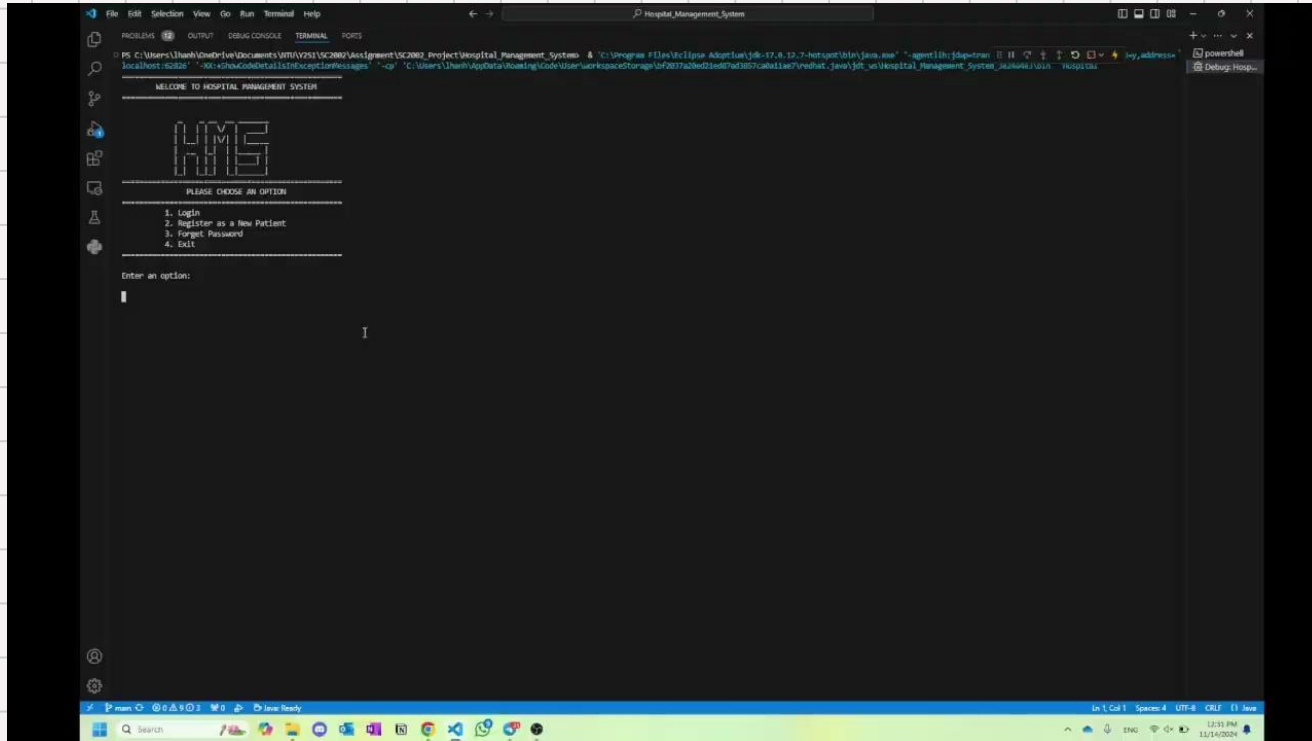
WELCOME TO HOSPITAL MANAGEMENT SYSTEM

=====
                HME
                HME
=====

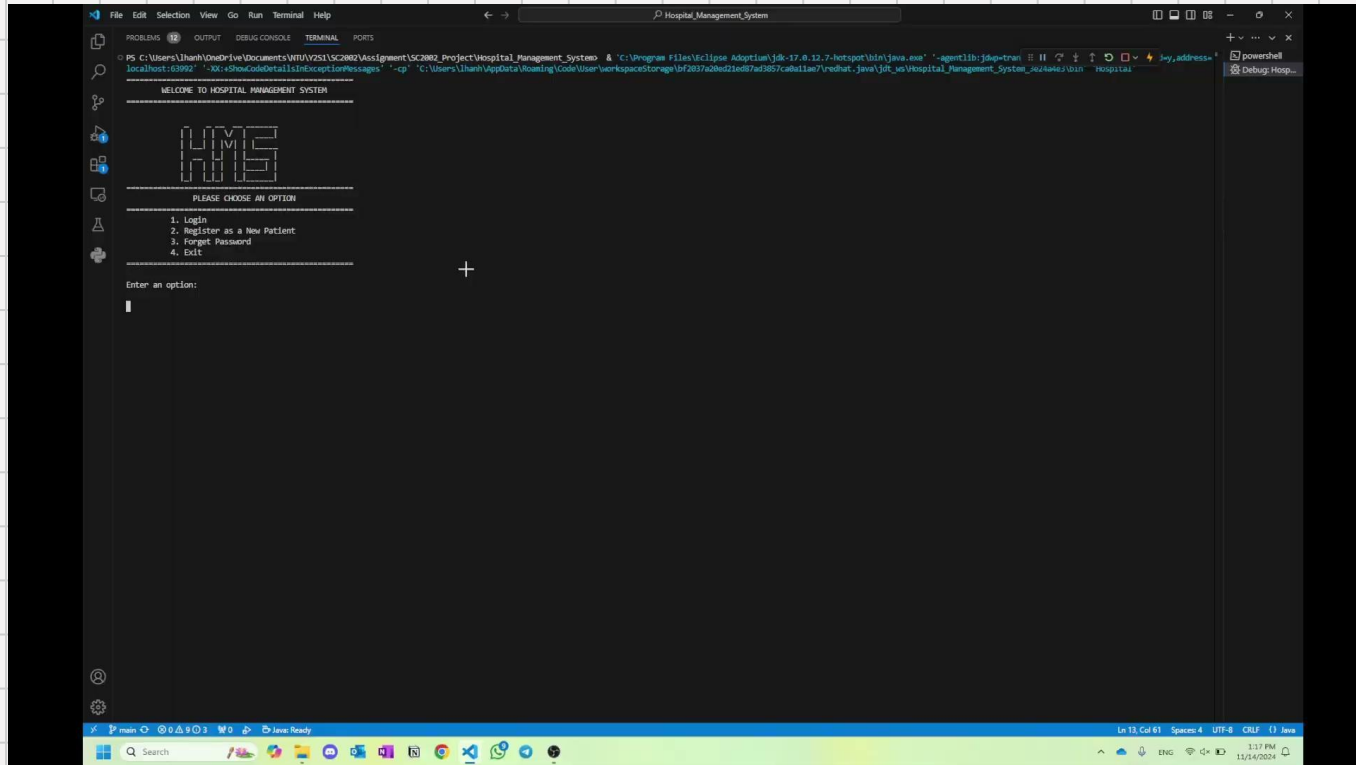
PLEASE CHOOSE AN OPTION

1. Login
2. Register as a New Patient
3. Forget Password
4. Exit

Enter an option:
|
```



Role: Pharmacist



The screenshot shows an IDE window titled "Hospital_Management_System". The terminal output displays the following text:

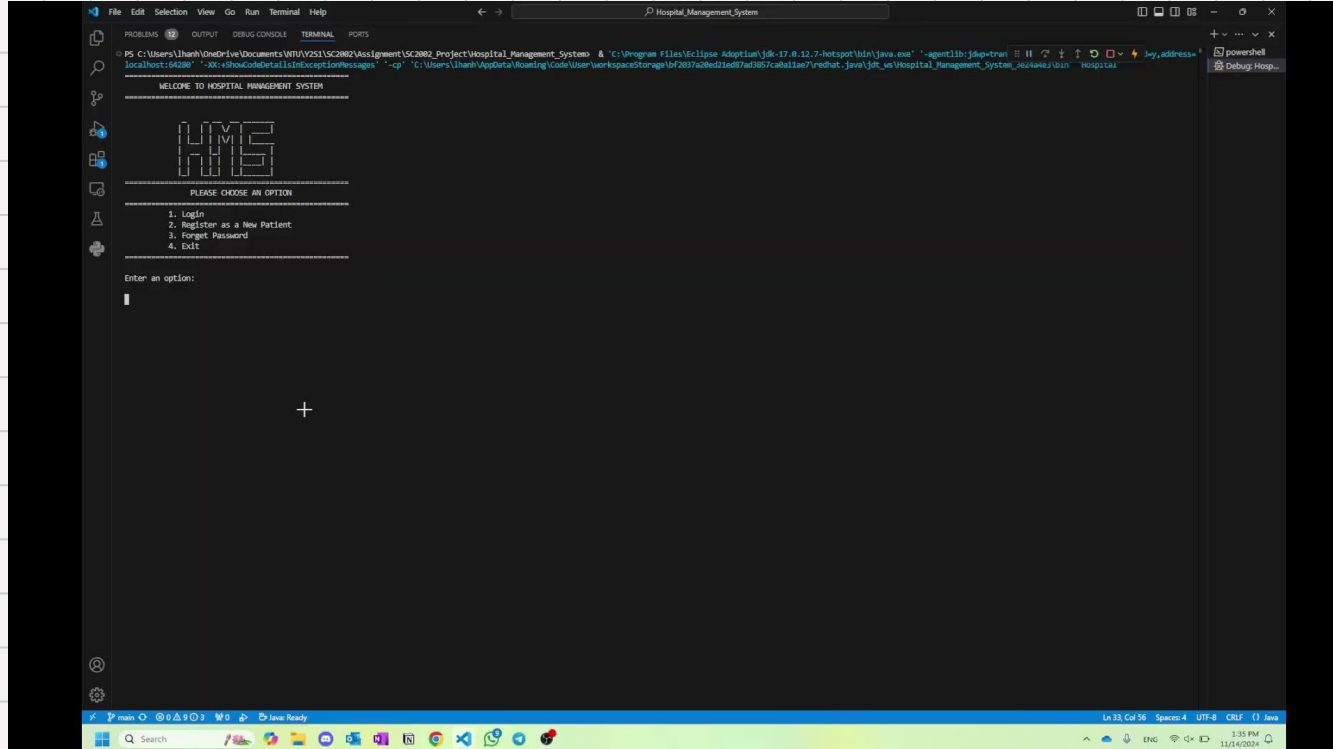
```
PS C:\Users\lhanh\OneDrive\Documents\WVA\VS21\SC2002\Assignment\SC2002_Project\Hospital_Management_System> .\Hospital_Management_System.exe
Welcome to Hospital Management System

=====
                HMS
                =====
PLEASE CHOOSE AN OPTION
=====
1. Login
2. Register as a New Patient
3. Forget Password
4. Exit

Enter an option:
|
```

The IDE interface includes a menu bar (File, Edit, Selection, View, Go, Run, Terminal, Help), a toolbar, and a sidebar with icons for Explorer, Search, Run and Debug, and Extensions. The bottom status bar shows "Ln 13, Col 61", "Spaces: 4", "UTF-8", "CR/LF", and "Java". The Windows taskbar at the bottom displays the search bar, task view, and various application icons, along with the system clock showing 1:17 PM on 11/14/2024.

Role: Admin



```
File Edit Selection View Go Run Terminal Help
Hospital_Management_System

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

C:\Users\Uanh\OneDrive\Documents\WU\Y2S1\SC2002\Assignment\SC2002_Project\Hospital_Management_System > & "C:\Program Files\Eclipse Adoptium\jdk-17.0.12-hotspot\bin\java.exe" "-agentlib:jdwp=transport=dt_socket,address=*,localhost:64280" "-Xc:showCodeDetailsInExceptionMessages" "-cp" "C:\Users\Uanh\AppData\Local\Code\User\workspaceStorage\bf2037a2ed1ed7af385fcballe7\redhat_java\lib\as\Hospital_Management_System\as\classes\bin" Hospital

WELCOME TO HOSPITAL MANAGEMENT SYSTEM

=====
                H M S
=====

PLEASE CHOOSE AN OPTION

1. Login
2. Register as a New Patient
3. Forget Password
4. Exit

=====

Enter an option:
|
```


Reflection

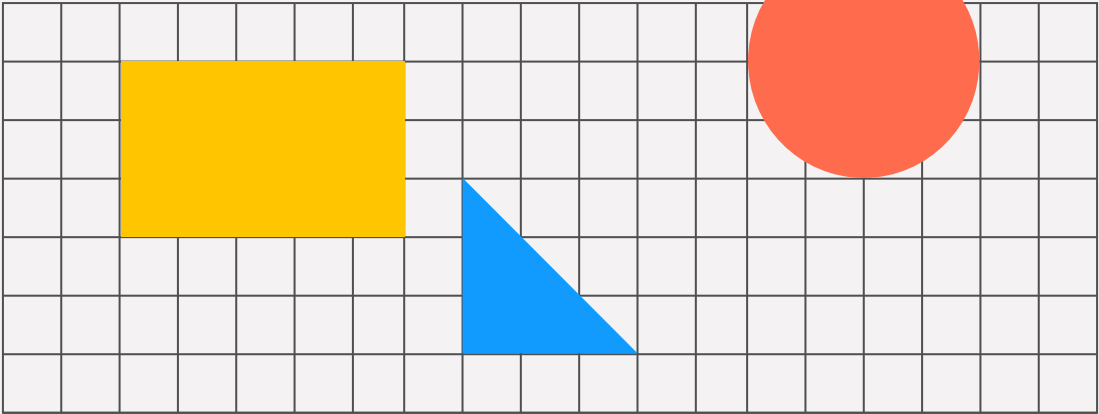
- **Developing UML with varying levels of OOP and BCE knowledge**
 - Solution: Started with a basic skeleton
- **Distribution of Work: interdependencies required close collaboration**
 - Solution: Used pair programming for better code quality
- **Integrating OOP principles**
 - JDK constraints > adding static methods to interface

Key Takeaways:

- > Improved understanding of OOP, design principles, and teamwork
- > Project has potential for a robust HMS

CLASS OVERVIEW

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna.





Code
Run-Through



Additional
Features



Class

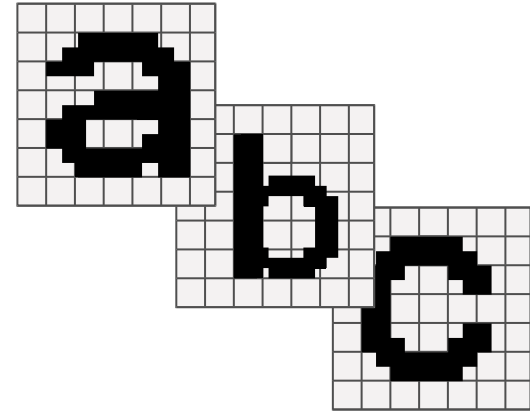


Contact

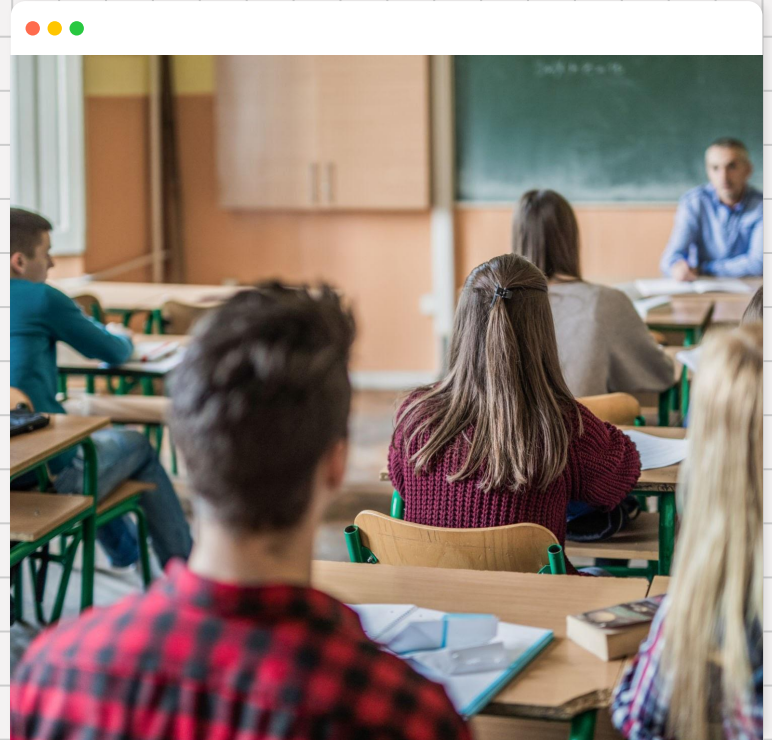
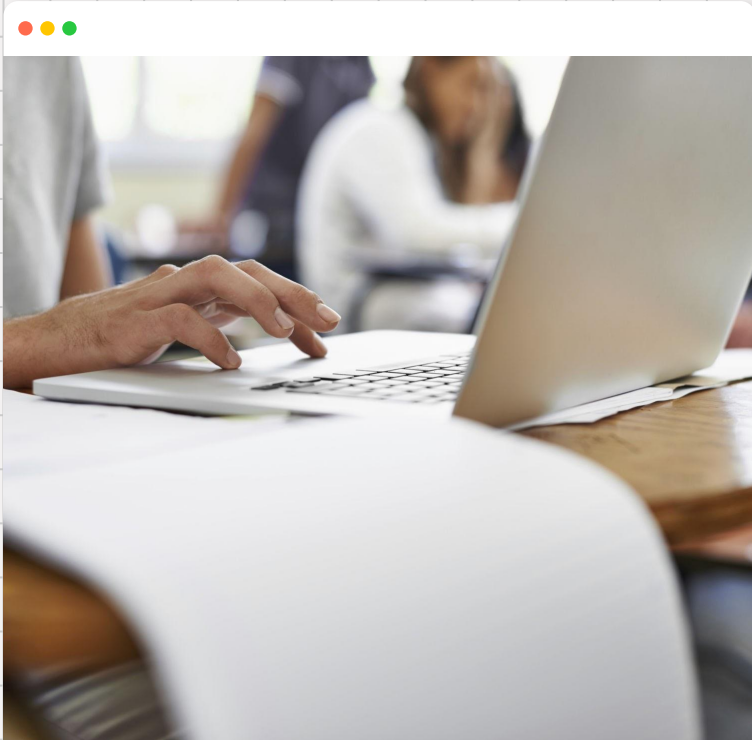
Learning Outcome

Outline

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.



Class Methods



Class Expectations

Do's

- Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Don'ts

- Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Schedule

Date	Topic	Homework
Monday May 5	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.	<ul style="list-style-type: none">• Lorem ipsum dolor sit amet• Lorem ipsum dolor sit amet, consectetur adipiscing
Monday May 12	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.	<ul style="list-style-type: none">• Lorem ipsum dolor sit amet• Lorem ipsum dolor sit amet, consectetur adipiscing
Monday May 19	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.	<ul style="list-style-type: none">• Lorem ipsum dolor sit amet• Lorem ipsum dolor sit amet, consectetur adipiscing
Monday May 26	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.	<ul style="list-style-type: none">• Lorem ipsum dolor sit amet• Lorem ipsum dolor sit amet, consectetur adipiscing

Behavior and Manners

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.



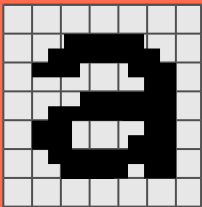
- Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.



Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

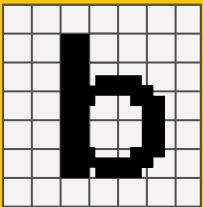
Tips

Class Materials



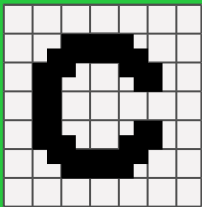
Lorem ipsum

Lorem ipsum dolor sit amet,
consectetur adipiscing elit



Lorem ipsum

Lorem ipsum dolor sit amet,
consectetur adipiscing elit



Lorem ipsum

Lorem ipsum dolor sit amet,
consectetur adipiscing elit

Contact Me

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. The standard Lorem Ipsum passage is: Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor **incidunt ut labore et dolore magna aliqua.**



Email

no_reply@example.com

Phone

(123) 456-7890

Office

123 Street Name

