# BINUS University

| Academic Career: *Undergraduate / ~~Master / Doctoral / International / BASE / BINUS Online~~*) | Class Program: *Regular / ~~Global Class~~*) |
|---|---|
| ☐ **Mid Exam**    ☒ **Compact Term Exam** <br> ☐ **Final Exam**    ☐ **Others Exam : _____** | **Term : ~~Odd~~ / ~~Even~~ / Compact** *) <br> **Period (Only for *BINUS Online*): ~~1 / 2~~** *) |

| | Academic Year : |
|---|---|
| ☒ **Kemanggisan**    ☐ **Senayan**    ☐ **Semarang** <br> ☒ **Alam Sutera**    ☐ **Bandung** <br> ☒ **Bekasi**    ☐ **Malang** | **2023 / 2024** |

| Exam Type* : ~~Onsite~~ / Online | Faculty / Dept. : School of Computer Science |
|---|---|
| Day / Date** : Wednesday / 04 Sep 2024 | Code - Course : COMP6820001 – Object Oriented Programming |
| Time** : 17:00 | Code - Lecturer : Team Teaching |
| Exam Specification*** : ☐ Open Book   ☐ Open Notes <br> ☐ Close Book   ☐ Submit Project <br> ☐ Open E-Book   ☐ Oral Test | BULC (Only for BINUS Online) : |
| | Class : All Classes |
| Equipment*** : <br> ☐ Exam Booklet   ☐ Laptop   ☐ Drawing Paper – A3 <br> ☐ Tablet   ☐ Drawing Paper – A2 <br> ☐ Calculator   ☐ Smartphone   ☐ Notes <br> ☐ Dictionary | Student ID *** : |
| | Name *** : |
| | Signature *** : |

*) *Strikethrough the unnecessary items*    **) *For Online Exam, this is the due date*    ***) *Only for Onsite Exam*

***Please insert the test paper into the exam booklet and submit both papers after the test.***

***The penalty for CHEATING is DROP OUT!***

Learning Outcome for
☐ Mid Exam      ☒ Final Exam

**LO 1 :** Differentiate Between Conventional Programming and Object Oriented Programming
**LO 2 :** Describe the Main Feature of Object Oriented Programming
**LO 3 :** Describe the Additional Feature of Object Oriented Programming
**LO 4 :** Construct a program with Object Oriented Programming

## I. Case (100%)

Technology helps people a lot in everyday life. We are currently in a world of transition. The emergence of the internet, humans can easily buy goods, view information, communicate, and most importantly, technology has greatly facilitated the work of many people. But apart from that, technology often makes people feel confused and frustrated and has a psychological impact on certain people. Most people today are very vulnerable to mental disorders, bullying and hate speech on social media.

In terms ofHere, you have a client who needs a mental health app called "Mental

| |
|---|
| *Verified by,* <br><br> *Alif Tri Handoyo D6823 and sent to Program on August 05, 2024* |

Health". This application is in the form of online or face-to-face counseling with professional psychologist or psychiatrist to help children, teenagers or people adults to heal mentally and support self-help. You as programmers are asked to develop applications to distribute healing, here are the details:

1. **[LO 1, LO 2 , LO 3 & LO 4, 40 points]** Add New Patient
   - Staff can add new Patients to the list by **date of birth ,full name, email, type counseling. (minimum 5 patient)**
   - Counseling. Contains a menu for selecting professional psychologist or psychiatrist assistance either online or face to face.  The following input format is requested:
   Input Format: dd/mm/yyyy - Full Name - email(@) - Counseling type(Online/Face to face)

   Sample Input: 02/14/2000 – Cindy Rahayu- cindy@gmail.com - online
              10/12/1998 – Luffy Prabowo- luffy@gmail.com - face to face
              02/30/2011 – Imam Hanafi- imamhanafi@gmail.com - online

1. **Input pasien**

```
Mental Health
===============
1. Add new patient
2. View patients
3. Distribute Cure
>>
1
Input patient data:
26/03/2001 - Angela Tisha - angelatisha@gmail.com - face to face
Patient successfully added!
Press enter to continue

Mental Health
===============
1. Add new patient
2. View patients
3. Distribute Cure
>>
1
Input patient data:
18/06/1996 - Brian Mau - brianmau@gmail.com - online
Patient successfully added!
Press enter to continue

Mental Health
===============
1. Add new patient
2. View patients
3. Distribute Cure
>>
1
Input patient data:
17/02/1996 - Michelle Tan - michelletan@gmail.com - online
Patient successfully added!
Press enter to continue
```

2. **[LO 1, LO 2 , LO 3 & LO 4, 30 points]** View Patient

- Show all patient list. (minimum 5 patients)
- If there is no patient data, the application will display a warning message "Data not found"! If there is data then the application **will show a list of all patients**.

   **2. List Pasien**
- **Jika tidak ada data**

```
Mental Health
===============
1. Add new patient
2. View patients
3. Distribute Cure
>>
2
Data not found!
Press enter to continue
```

- **Jika ada data**

```
Mental Health
===============
1. Add new patient
2. View patients
3. Distribute Cure
>>
2
Patient List

==================================================================================
| Date of Birth | Name          | Email                      | Counseling   |
==================================================================================
| 26/03/2001    | Angela Tisha  | angelatisha@gmail.com      | face to face |
| 18/06/1996    | Brian Mau     | brianmau@gmail.com         | online       |
| 17/02/1996    | Michelle Tan  | michelletan@gmail.com      | online       |
| 03/12/2005    | Maya Ashley   | mayaashley@gmail.com       | face to face |
==================================================================================
Press enter to continue
```

3. **[LO 1, LO 2 , LO 3 & LO 4, 30 points]** Distribute Cure

- **Children will be given priority**,

- If there is no data, the application will display a warning message "Data not found"!. If there is data, the application **will display the patient's name and delete it from patient list**. because he had received medication.

   **3. Distribute Cure**
- **Jika tidak ada data**

```
Mental Health
===============
1. Add new patient
2. View patients
3. Distribute Cure
>>
3
Data Not Found!
Press enter to continue
```

- **Jika ada data**

Maya Ashley yang pertama karena paling muda

```
Mental Health
===============
1. Add new patient
2. View patients
3. Distribute Cure
>>
3
=======================================
| 03/12/2005 - Maya Ashley is cured |
=======================================
Press enter to continue
```

Maya Ashley terhapus dari list pasien

```
Mental Health
===============
1. Add new patient
2. View patients
3. Distribute Cure
>>
2
Patient List
==============================================================================
| Date of Birth  | Name          | Email                   | Counseling     |
==============================================================================
| 26/03/2001     | Angela Tisha  | angelatisha@gmail.com   | face to face   |
| 18/06/1996     | Brian Mau     | brianmau@gmail.com      | online         |
| 17/02/1996     | Michelle Tan  | michelletan@gmail.com   | online         |
==============================================================================
Press enter to continue
```

Selanjutnya Angela Tisha karena kedua paling muda

```
Mental Health
===============
1. Add new patient
2. View patients
3. Distribute Cure
>>
3
=========================================
| 26/03/2001 - Angela Tisha is cured |
=========================================
Press enter to continue
```

List pasien kosong karena semua pasien telah mendapatkan obat

```
Mental Health
===============
1. Add new patient
2. View patients
3. Distribute Cure
>>
2
Data not found!
Press enter to continue
```

Scoring will be based on how you can implement object-oriented programming concept and not just based on correctness that the program works. Your code must implement:

a. Class and Object
b. Constructor
c. Encapsulation
d. Inheritance
e. ArrayList / Vector

-- Good Luck --