PHASE 2

SECJ1023 PROGRAMMING TECHNIQUE II

2023/2024

SECTION : 08

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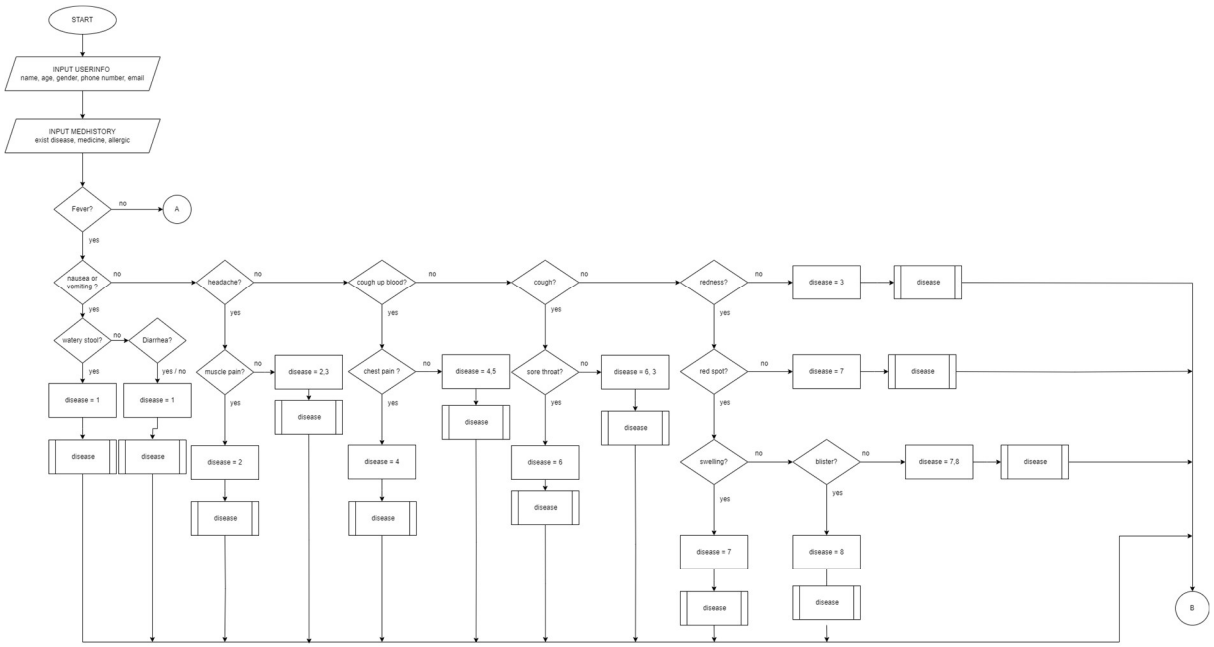
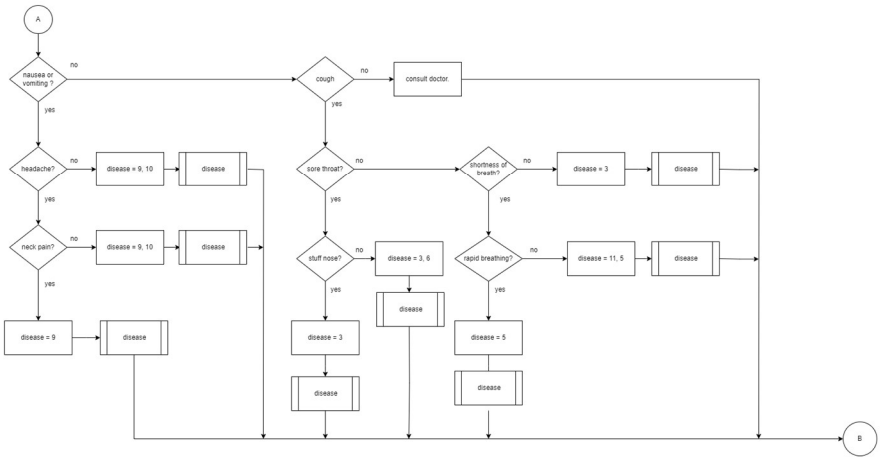
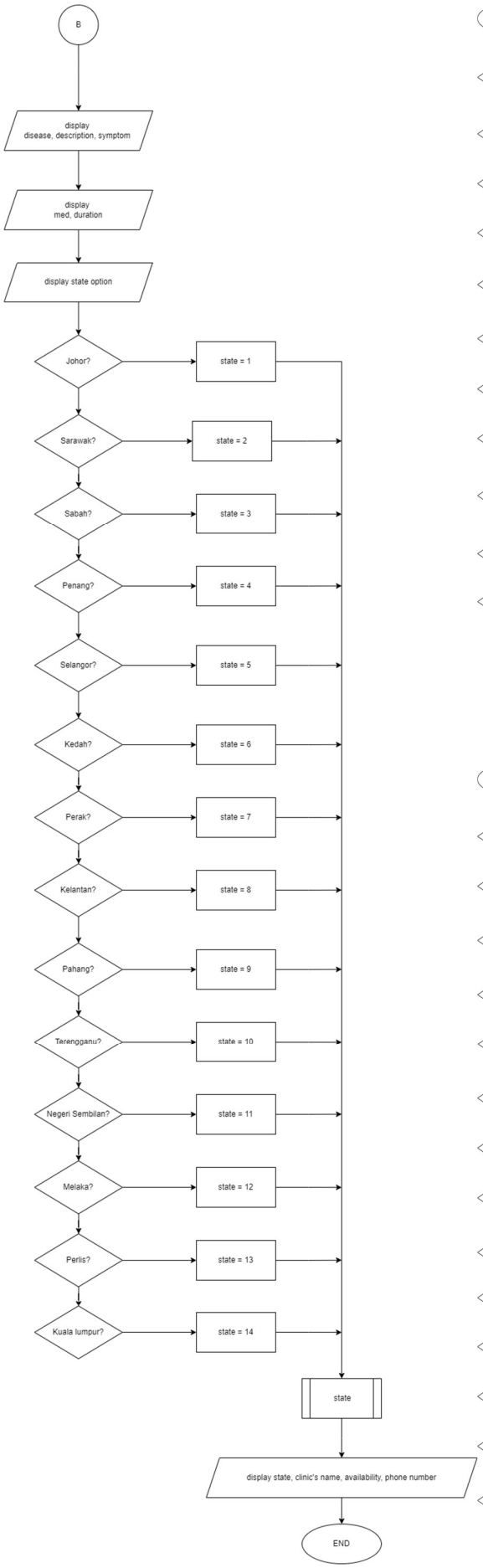
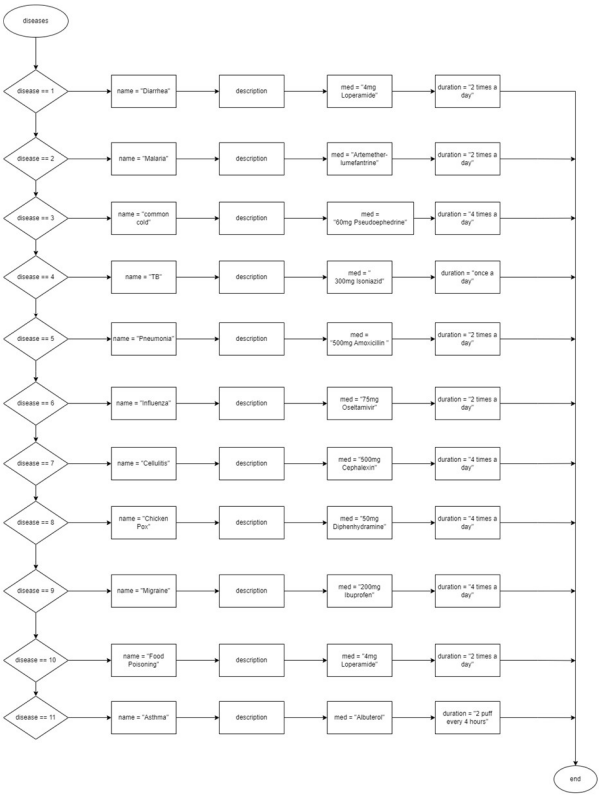
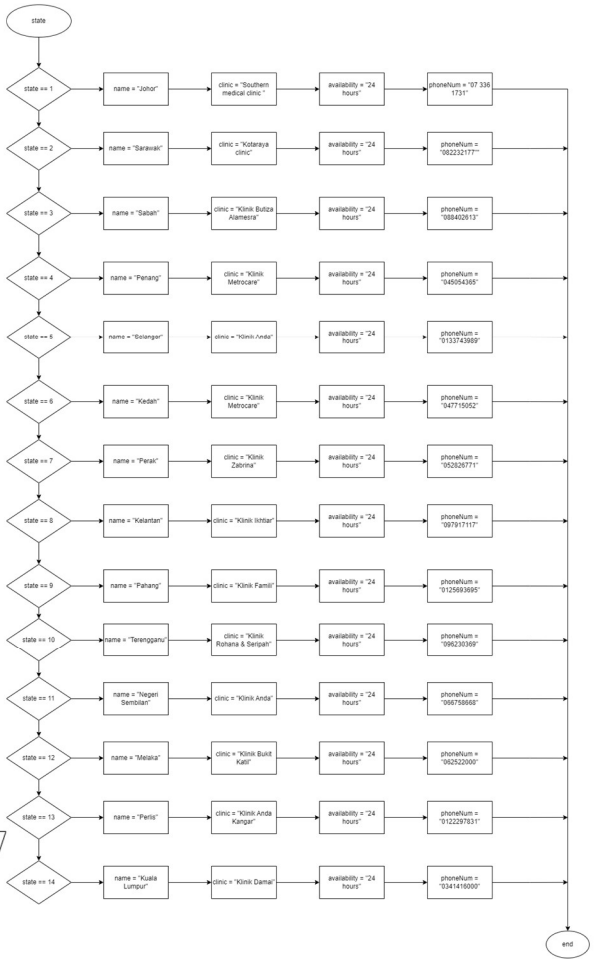
Section A : Flowchart






B
display
disease, description, symptom
display
med, duration
display state option
Johor?
state = 1
Sarawak?
state = 2
Sabah?
state = 3
Penang?
state = 4
Selangor?
state = 5
Kedah?
state = 6
Perak?
state = 7
Kelantan?
state = 8
Pahang?
state = 9
Terengganu?
state = 10
Negeri Sembilan?
state = 11
Melaka?
state = 12
Perlis?
state = 13
Kuala lumpur?
state = 14
state
display state, clinic's name, availability, phone number
END


diseases
disease == 1
name = "Diarrhea"
description
med = "4mg Loperamide"
duration = "2 times a day"
disease == 2
name = "Malaria"
description
med = "Artemether-lumefantrine"
duration = "2 times a day"
disease == 3
name = "common cold"
description
med = "60mg Pseudoephedrine"
duration = "4 times a day"
disease == 4
name = "TB"
description
med = " 300mg Isoniazid"
duration = "once a day"
disease == 5
name = "Pneumonia"
description
med = "500mg Amoxicillin "
duration = "2 times a day"
disease == 6
name = "Influenza"
description
med = "75mg Oseltamivir"
duration = "2 times a day"
disease == 7
name = "Cellulitis"
description
med = "500mg Cephalexin"
duration = "4 times a day"
disease == 8
name = "Chicken Pox"
description
med = "50mg Diphenhydramine"
duration = "4 times a day"
disease == 9
name = "Migraine"
description
med = "200mg Ibuprofen"
duration = "4 times a day"
disease == 10
name = "Food Poisoning"
description
med = "4mg Loperamide"
duration = "2 times a day"
disease == 11
name = "Asthma"
description
med = "Albuterol"
duration = "2 puff every 4 hours""
end


state
state == 1
name = "Johor"
clinic = "Southern medical clinic "
availability = "24 hours"
phoneNum = "07 336 1731"
state == 2
name = "Sarawak"
clinic = "Kotaraya clinic"
availability = "24 hours"
phoneNum = "082232177""
state == 3
name = "Sabah"
clinic = "Klinik Buliza Alamesra"
availability = "24 hours"
phoneNum = "088402613"
state == 4
name = "Penang"
clinic = "Klinik Metrocare"
availability = "24 hours"
phoneNum = "045054365"
state == 5
name = "Selangor"
clinic = "Klinik Anda"
availability = "24 hours"
phoneNum = "013374398"
state == 6
name = "Kedah"
clinic = "Klinik Metrocare"
availability = "24 hours"
phoneNum = "047715052"
state == 7
name = "Perak"
clinic = "Klinik Zabrina"
availability = "24 hours"
phoneNum = "052826771"
state == 8
name = "Kelantan"
clinic = "Klinik Ikhlar"
availability = "24 hours"
phoneNum = "097917117"
state == 9
name = "Pahang"
clinic = "Klinik Famili"
availability = "24 hours"
phoneNum = "0125693695"
state == 10
name = "Terengganu"
clinic = "Klinik Rohana & Seripah"
availability = "24 hours"
phoneNum = "096230369"
state == 11
name = "Negeri Sembilan"
clinic = "Klinik Anda"
availability = "24 hours"
phoneNum = "066758668"
state == 12
name = "Melaka"
clinic = "Klinik Bukit Katil"
availability = "24 hours"
phoneNum = "062522000"
state == 13
name = "Perlis"
clinic = "Klinik Anda Kangar"
availability = "24 hours"
phoneNum = "0122297831"
state == 14
name = "Kuala Lumpur"
clinic = "Klinik Damai"
availability = "24 hours"
phoneNum = "0341416000"
end

The main process in the flowchart is a medical diagnosis and consultation system. It begins with the user inputting their personal information (name, age, gender, phone number, email) and medical history (existing diseases, medications, allergies). The system then evaluates the user's symptoms through a series of questions about fever, nausea, vomiting, stool consistency, headaches, muscle pain, cough, sore throat, redness, red spots, swelling, blisters, neck pain, stuffy nose, shortness of breath, and rapid breathing.

Based on the responses, the system identifies the probable diseases by matching symptoms to predefined conditions. Each disease is assigned a unique identifier (disease = 1, 2, 3, etc.) and its corresponding description, medication, and dosage are displayed. If symptoms are indicative of multiple conditions, the system lists all possible diseases. After diagnosing, the system displays medical recommendations and clinics based on the user's state location. The final output includes the disease name, description, prescribed medication, dosage, and local clinic contact information for further consultation. The process ensures the user receives both immediate guidance and local medical support information.

Section B: Problem Analysis

Classes	Attributes	Method
UserInfo	- Name - Age - Gender - phone number - email	- displayInfo()
MedHistory	- exist disease - medicine - allergic	
Symptoms	- Fever - Cough - Sore Throat - Nausea and vomiting - Watery stool - Diarrhea - Muscle pain - Cough up blood - Chest pain - Redness - Red spot - Swelling - Blister - Headache - Neck pain - Stuffy nose - Shortness of breath - Rapid breathing	
Disease	- Diarrhea - Malaria - common cold - TB - Pneumonia - Influenza - Cellulitis - Chicken Pox - Migraine - Food Poisoning - Asthma	- getDisease() - setDisease() - displayDisease()

Suggestions	- Suggested_Medicine - Nutritional_Advice - Clinic	- description() - getDescription() - display()
Suggested_Medicine	- medicine - duration	- display()
Nutritional_Advice	- mealSuggest	- display()
	- mealAvoid	
Clinic	- state - stateName - clinicName - availability - clinic_number	- display()

Associations

Composition	**Aggregation**
UserInfo and MedHistory	Symptoms and Disease
Both classes are highly dependent on each other, if another user is using the system, the medical history of the previous user will be deleted.	One symptom doesn't belong to only one type of disease. For Instance, fever could be a symptom of the common cold but also can be a symptom of chicken pox. Therefore, aggregation is suitable for this relationship.

Inheritance

Parent class	**Child classes**
Suggestions	- Suggested_Medicine - Nutritional_Advice - Clinic
All three classes in the child class provide the suggested treatment plan for the user and all three have the same attributes for the disease name to suggest the treatment plan.	

Section C (UML diagram)