



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

SCHOOL OF COMPUTING

SESSION 2020/2021 SEMESTER 1

SECJ 1013 - 08

PROGRAMMING TECHNIQUE I

ASSIGNMENT 1

CASE STUDIES 12 (GROUP 09)

GROUP MEMBERS :

1. RADIN NAZHAN BIN RADIN JAMZULKOMAR(A20EC0136)
2. AMIR FIRDAUS BIN ROSMAN (A20EC0180)
3. MUHAMMAD HAFIZZUL BIN ABDUL MANAP(A20EC0211)

LECTURER : DR. ADILA FIRDAUS BINTI ARBAIN

Case Study 12

Case study 12

Create a pseudocode based on the Hotel Room payment system restricted to below conditions

Type	Diagnostic Test	Value for Normal	Value for Prediabetes	Value for Diabetes
1	Hemoglobin A1C (HbA1C)	$V < 5.7$	$5.7 \leq V < 6.5$	$V \geq 6.5$
2	Fasting plasma glucose (FPG)	$V < 100$	$100 \leq V < 125$	$V \geq 125$
3	Oral glucose tolerance test (OGTT)	$V < 140$	$140 \leq V < 200$	$V \geq 200$

Table 10: Hotel Price List

- The user will enter the Value (V). Then the system will determine which type, The Diagnostic Test and the state of the patient either Normal, Prediabetes and Diabetes. If the value is for type 1, it can be in float type but for value that round numbers must be for type 2 and 3.
- If the patient state is Prediabetes, state the amount of value to reduce to Normal state based on the type
- If the patient state is Diabetes, state the amount of values to reduce to Prediabetes and Normal state based on the type

1. Start
2. Display message "Please enter the Value"
3. Read Value
4. If (Value == (float) Value)
 - 4.1 Display message "Type : 1"
 - 4.2 Display message "Diagnostic Test : Hemoglobin A1C (HbA1C)"
 - 4.3 If ((Value > 0) && (Value < 5.7))
 - 4.3.1 Display message "Status : Normal"
 - 4.4 Else if ((Value ≥ 5.7) && (Value < 6.5))
 - 4.4.1 Display message "Status : Prediabetes"
 - 4.4.2 Calculate ReduceToNor = Value – 5.69
 - 4.4.3 Display message "Amount of value to reduce to Normal State : " + ReduceToNor
 - 4.5 Else if (Value ≥ 6.5)
 - 4.5.1 Display message "Status : Diabetes"

- 4.5.2 Calculate $\text{ReduceToNor} = \text{Value} - 5.69$
- 4.5.3 Display message "Amount of value to reduce to Normal State : " + ReduceToNor
- 4.5.4 Calculate $\text{ReduceToPre} = \text{Value} - 6.49$
- 4.5.5 Display message "Amount of value to reduce to Prediabetes State : " + ReduceToPre

4.6 End if

5. Else if ($\text{Value} == (\text{int}) \text{Value}$)

5.1 If (($\text{Value} < 0$) && ($\text{Value} < 100$))

- 5.1.1 Display message "Type : 2"
- 5.1.2 Display message "Diagnostic Test : Fasting Plasma glucose (FPG)"
- 5.1.3 Display message "Status : Normal"

5.2 Else if (($\text{Value} \geq 100$) && ($\text{Value} < 125$))

- 5.2.1 Display message "Type : 2"
- 5.2.2 Display message "Diagnostic Test : Fasting Plasma glucose (FPG)"
- 5.2.3 Display message "Status : Prediabetes"
- 5.2.4 Calculate $\text{ReduceToNor} = \text{Value} - 99$
- 5.2.5 Display message "Amount of value to reduce to Normal State : " + ReduceToNor

5.3 Else if (($\text{Value} \geq 125$) && ($\text{Value} < 140$))

- 5.3.1 Display message "Type : 2"
- 5.3.2 Display message "Diagnostic Test : Fasting Plasma glucose (FPG)"
- 5.3.3 Display message "Status : Diabetes"
- 5.3.4 Calculate $\text{ReduceToNor} = \text{Value} - 99$

- 5.3.5 Display message "Amount of value to reduce to Normal State : " + ReduceToNor
- 5.3.6 Calculate $\text{ReduceToPre} = \text{Value} - 124$
- 5.3.7 Display message "Amount of value to reduce to Prediabetes State : " + ReduceToPre
- 5.3.8 Display message "Type : 3"
- 5.3.9 Display message "Diagnostic Test : Oral glucose tolerance test (OGTT)"
- 5.3.10 Display message "Status : Normal"

5.4 Else if ($\text{Value} \geq 140$) && ($\text{Value} < 200$)

- 5.4.1 Display message "Type : 3"
- 5.4.2 Display message "Diagnostic Test : Oral glucose tolerance test (OGTT)"
- 5.4.3 Display message "Status : Prediabetes"
- 5.4.4 Calculate $\text{ReduceToNor} = \text{Value} - 139$
- 5.4.5 Display message "Amount of value to reduce to Normal State : " + ReduceToNor

5.5 Else if ($\text{Value} \geq 200$)

- 5.5.1 Display message "Type : 3"
- 5.5.2 Display message "Diagnostic Test : Oral glucose tolerance test (OGTT)"
- 5.5.3 Display message "Status : Diabetes"
- 5.5.4 Calculate $\text{ReduceToNor} = \text{Value} - 139$
- 5.5.5 Display message "Amount of value to reduce to Normal State : " + ReduceToNor
- 5.5.6 Calculate $\text{ReduceToPre} = \text{Value} - 199$
- 5.5.7 Display message "Amount of value to reduce to Prediabetes State : " + ReduceToPre

5.6 End if

6. End if

7. End