

WIA1002 Data Structure

Tutorial 1: Object Oriented Programming

1. Create a class called **Tarikh** that includes three instance variables type integer. (day, month, year). Create a constructor that initializes the three instance variables. Create a toString() method that return the date format in "dd/mm/yyyy". Example output:

```
Day: 5 Month: 11 Year: 2016
Date is : 05/11/2016
```

2. Create a class called **Sentence** that used to display the length, the number of vowels (a,e,i,o,u) and the number of words in the sentence. Example output:

```
The sentence is : How are you?
The length of the sentence : 12
The number of vowels : 5
The number of words : 3
```

3. Define a class ISP. The class consists of the name of the subscription plan and a method that display the plan. Derive a class DPlan from ISP. The DPlan will charge RM10 per Mbps subscribe and RM0.20 per GB used. Derive a class MPlan from ISP. The MPlan will charge RM5 per Mbps subscribe and RM0.80 per GB used. Display the plan and select the best plan. Example output:

```
5Mbps Subscription and 50GB
Plan : DPlanwith price RM: 60.0
Plan : MPlanwith price RM: 65.0
DPlan is cheaper as compared to MPlan
```

4. Create a class SmartPhone that implements the comparable interface. The class consists of model name and the price of the model. Create an array for multiple SmartPhone objects. Sort the smartphone in ascending order of the price. Example output:

```
List of Smart Phone:
iPhone (RM 2400) Samsung (RM 2200) Nokia (RM 1400) LG (RM 1800)
List of Smart Phone in ascending order of the price
Nokia (RM 1400) LG (RM 1800) Samsung (RM 2200) iPhone (RM 2400)
```