# Worksheet 1 Basic concepts of OOP

**Task 1**

Write a program to implement the pseudocode given below for the procedural Fish example:

Sub feed(Byref state, Byref size)

 size 🡨 size + 1

 Output "Fish fed"

 If size = 5 Then

 state 🡨 "FISH"

 End If

End Sub

thisFishState 🡨 "Fish"

thisFishSize 🡨 1

Output thisFishState, " is of size ", thisFishSize

While thisFishState <> "FISH"

 feed(thisFishState, thisFishSize)

Endwhile

Output "It is now a big ", thisFishState

**Task 2**

Write program statements to declare the class Animal, as shown in the pseudocode:

Animal = Class

 Public

 Constructor (s, n)

 Procedure feed()

 Function getState()

 Function getSize()

 Private

 state: String

 size: Integer

 Animal.Constructor (s, n)

 Animal.state 🡨 s

 Animal.size 🡨 n

 End Constructor

 Procedure Animal.feed()

 Animal.size 🡨 Animal.size + 1

 If Animal.size = 5 Then

 Animal.state 🡨 "FISH"

 End If

 End Procedure

 Function Animal.getState()

 Return Animal.state

 End Function

 Function Animal.getSize()

 Return Animal.size

 End Function

End Class

**Task 3**

Write program statements to implement the pseudocode for the OOP Fish example:

thisFish 🡨 new Animal("Fish", 1)

Output thisFish.getState()

Output " is of size ", thisFish.getSize()

While thisFish.getState() <> "FISH"

 thisFish.feed()

Endwhile

Output "It is now a big "

Output thisFish.getState()

 **Task 4**

Write program code for a class for a car object. The attributes required are:

Registration

Make

Mileage

DateOfInspection

The constructor is to set the mileage driven to 0 and registration and make are supplied as parameter values during instantiation.

Other methods required are:

Getters for registration, make, mileage and date of inspection

Setter for inspection data (mileage driven and date of inspection)

 **Task 5**

Write program code to test your car class. Instantiate a car with a chosen registration and make. Set inspection data with a number of miles and an inspection date. Then use each of the getter methods and output the data with relevant messages.