IT1050 – Object Oriented Concepts   **Semester 1, 2021**

Objectives : Learn how to identify Objects, Classes and Properties

Work with another student to find answers together to these questions. If you have doubts check with your Tutors. After you have found the solutions, attempt the given Tutorial Quiz where you individually have to submit your answers.

Exercise 1 – Noun Verb Analysis

Consider the following scenario. Do the Noun Verb analysis to identify the classes in the description.

 An Online bookshop sells different things. Currently it has books, magazines and CDs. All these products have some common types of information such as price, title etc.. Also each product may have specific information such as author, number of pages, artists, type etc..) .

The registered customers can place orders for products. The ordered products are usually delivered together, but sometimes several shipments are needed when the store runs out of products for a while. An order may contain several products.

The products are delivered to personal customers and payments are done at the delivery. The business customers will get their orders directly, and they will be sent an invoice afterwards. Both customer types can make the payment also by using credit card. When registering, a customer is prompted to give contact and personal information needed for authentication, delivery of orders and invoicing.

The bookshop system must be able to add and remove customers, add new products and view/ update existing products, make or remove orders and view existing orders, view and generate reports on the products.

Do the Noun Verb analysis to identify the classes in the description.

   (a) Identify all the Nouns which can be potential classes
   (b) Identify the set of potential classes, show clearly how the nouns were rejected using the 5
       rules.

(From 2018 – June Paper)

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Exercise 2 – Noun Verb Analysis

Consider the following scenario. Do the Noun Verb analysis to identify the classes in the description.

A supermarket sells many types of items. Each item has an item code, description, price and stock levels.

The supermarket has loyalty card that captures the customer details such as Name, mobile No, points collected. Points are Added when a customer makes a purchase and Deducted when the customer uses the points.

The Invoice of the customer contains the customer name, points obtained, the items purchased. The calculated amount is also shown.

A cashier in the supermarket handles the billing. A Manager in the supermarket also uses the system to authorize changes to the invoices.

Do the Noun Verb analysis to identify the classes in the description.

- (a) Identify all the Nouns which can be potential classes
- (b) Identify the set of potential classes, show clearly how the nouns were rejected using the 5 rules.

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Exercise 3 – Identify Properties

The software system is supposed to manage information about Employees. Employees can be of two categories, namely Permanent Employees and Contract Basis Employees. An Employee has a name, address, phone number and an employee id. A Permanent Employee has a name, address, phone number, employee id and basic salary. A Contract Basis employee has a name, address, phone number, Employee id, hourly rate and hours worked. At the end of the every month, the system must calculate the total payments for each Employee.

The company sells products such as Milk powder, liquid milk, yoghurt and butter. Ajith is a Permanent Employee who received an allowance (30% of basic salary) for last month as he met with his targets in selling more than 10000 packs of Milk powder last month.

Read the scenario described above and Identify the properties for the following classes.

a) Employee
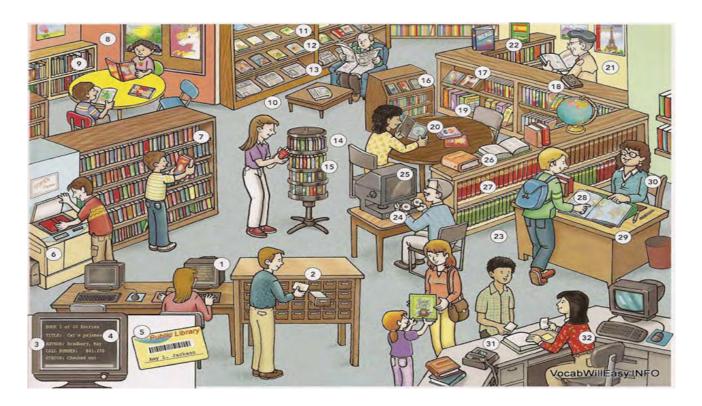b) Permanent Employee
c) Contract Employee

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Exercise 4 – Identify Objects and Classes

    a) Identify the Objects in the above Picture
    b) Group these Objects into Classes

Now submit your answers by answering the Tutorial 04 Quiz individually. If you have very different Objects and Classes please check with your Tutors.