NATIONAL UNIVERSITY OF COMPUTER AND EMERGING SCIENCES

– Software Design & Architecture Lab

LAB Instructors: Sobia Iftikhar “[Sobia.iftikhar@nu.edu.pk”](mailto:Sobia.iftikhar@nu.edu.pk)

**Task 01**

**Create Domain model and generate a Code**

Create a base class with name “SmartGadget” that have three private attribute, name, price, color. Make two classes named as “smartPhone” and “smartWatch” that inherit the all private attribute of super class. Both child classes have unique private attribute named as mutliTouchScreen and HeartRate respectively.

* Implement this scenario in Class Diagram
* Genrate the Java Code

Create an instant of both child class in main function and display the details (name, price, color, mutliTouchScreen/ HeartRate) for each class.

**Task -02**

**In 10Pearls (Software House)**

There are offices and departments. A department has a name and it contains many offices. There are employee who are working in a different offices. Employee have different categories, either he/ staff member or Developer,

In software house there is different type of developer. A developer can be a Manager, associate or assistant manager all are working in separate offices and one employee as enrolled in one department as head.

**Task 03**

**Lets** suppose a company wants to know about detailed relation of ATM system how module are linked with each other according to the following information. Bank have many customer, each customer have proper name address,Bank is responsible to issue a credit card to every customer. Customer and credit card both are linked via particular account that is created by Bank, and account have two type current account or saving account

ATM machine provide a benefits for the purpose of Atm transection

ATM machine is only associated with bank.

ATM Transection can be of two types,

1. Withdraw Transection
2. Transfer Transection

Make sure every ATM Transection linked via Account

**Task 04**

A University have many no of employees and specific department (Computer Science, Electrical ), and each employee have particular employee id and employee name and associated with particular department

.