**W04: Foundation Design Activity**

Note: In the following class diagrams, where there is the minus sign “-“ before the variables, it means a private variable, and where there is the plus sign “+” before the methods, it means a public method.

1. Foundation Program #1: [Abstraction with YouTube Videos](https://byui-cse.github.io/cse210-ww-course/week04/foundation-abstraction.html)

**Model:**

The solution consists of three classes, namely: Program, Video and Comment. The following image shows the class diagram of the software.

Interface gráfica do usuário, Texto

Descrição gerada automaticamente

**Description:**

* 1. An instance of the Program class instantiates the Comment and Video classes.
  2. An instance of the Program class includes the comments in its respective instances of the Video class.
  3. Instances of the Video class include comments (Instances of the Comment class) in the list of comments for their respective video (Instances of the Video class).
  4. An instance of the Program class includes instances of the Video class in the Videos list.
  5. Then the instance of the Program class iterates through the list of videos and prints to the console, for each video, the title, author, length in seconds and number of comments, then lists all the comments.

1. Foundation #2: Encapsulation with Online Ordering

**Model:**

The solution consists of five classes, namely: Program, Order, Customer, Product and Address. The following image shows the class diagram of the software.

Diagrama

Descrição gerada automaticamente

**Description:**

* 1. An instance of the Program class is created.
  2. The instance of the Program class creates an Order (Instance of the Order class) and loads the customer (Instance of the Customer class) and a product (Instance of the Product class) into the list of products of this instance of the Order class.
  3. Once the order has been created and the data has been properly loaded, the Program class instance will use the Order object to:
     1. Get the shipping label and print it on the console.
     2. Get the packing label and print it on the console.
     3. Get the total price and print it on the console.