Program #1: Abstraction with YouTube Videos

1. **What does the program do?**

It will track the videos from YouTube, including the comments in each one. Then, it will display the video’s information with the number of comments.

1. **What are candidates for classes?**
   1. Video
   2. Comments
   3. Program
2. **What are the responsibilities of each class?**

Video:

* + - Display video information
    - Get number of comments
    - Add a comment

Comment:

* + - Display a comment

Program #2: Encapsulation with Online Ordering

1. **What does the program do?**

A program that creates packing labels, shipping labels and total price for a Ordering company, these will be assigned to the correct order with the correct information respectively.

1. **What are candidates for classes?**
   1. Product.
   2. Customer.
   3. Address
   4. Order
2. **What are the responsibilities of each class?**

**Order:**

Contains a list of products and a customer. Can calculate the total cost of the order. It can return a string for the packing label. Can return a string for the shipping label.

**Product**

* It contains the name, product id, price, and quantity of each product.

**Customer**

* The customer contains a name and an address.

**Address**

* The address contains a string for the street address, the city, state/province, and country.

**AFTER MEETING**

**PROGRAM #1**

1. **Look at the list of classes and responsibilities your team considered for each of the programs. Add any classes that you think are missing.**
   * + NONE.
2. **Determine the behaviors of these classes and list these as methods.**
   1. Video.

AddComment()

DisplayVideoInfo()

GetNumberComments()

* 1. Comments

DisplayComments()

* 1. Program

None

1. **Determine the attributes these classes will need to have to support these behaviors and list them as member variables.**
   1. Video

\_title

\_author

\_lengthInSecond

\_Comments <list>

* 1. Comments

\_commenterName

\_commentedText

* 1. Program

None

1. **Include a class diagram for each class you will need.**

**VIDEO COMMENTS**

\_title: String \_comenterName: String

\_author: String \_commenterText: String

\_lengthInSecond: Int

\_Comments <list>**:** List

AddComment() DisplayComments()

DisplayVideoInfo()

GetNumberComments()

1. **Include some kind of description or chart showing how the program will run or how these methods relate to one another.**

The flow starts with creating videos, adding comments, and finally displaying the information about each video along with the comments. The DisplayComments method will only show the information for the name and text, the AddComment method will take this information from a list and use it to add a comment and the rest of methods will also use this information.

**PROGRAM #2**

1. **Look at the list of classes and responsibilities your team considered for each of the programs. Add any classes that you think are missing.**

NONE

1. **Determine the behaviors of these classes and list these as methods.**

Address Class:

IsInUSA()

GetFullAddress()

Customer Class:

IsInUSA()

GetName()

GetAddress()

Product Class:

GetTotalCost()

GetName()

GetProductId()

GetPrice()

GetQuantity()

Order Class:

AddProduct()

GetTotalPrice()

GetPackingLabel()

GetShippingLabel()

1. **Determine the attributes these classes will need to have to support these behaviors and list them as member variables.**

Address Class:

* \_street
* \_city
* \_state
* \_country

Customer Class:

* \_name
* \_address

Product Class:

* \_name
* \_productId
* \_price
* \_quantity

Order Class:

* \_products
* \_customer

1. **Include a class diagram for each class you will need.**

**ADDRESS CUSTOMER**

\_street: string \_name: string

\_city: string \_address: Address

\_state: string

\_country: string IsInUSA()

IsInUSA() GetName()

GetFullAddress() GetAddress()

**PRODUCT ORDER**

\_name: string \_products: List<Product>

\_productId: string \_customer: Customer

\_price: double

\_quantity: int AddProduct()

GetTotalCost() GetPackingLabel()

GetName() GetTotalPrice()

GetProductId() GetShippingLabel()

GetPrice()

GetQuantity()

1. **Include some kind of description or chart showing how the program will run or how these methods relate to one another.**

In this case, the process starts with the Cutomer’s information for the labels. First, we get the address because we need to know if the customers live in USA, then the customer need to receive this information and set it into its variables, with that set, the product class will make sure of performing the tasks such as getting the total price, to finally get the labels by the order information of the products and customers.