

Final Project : Class Designs

* Methods may differ the final version of the code, as there may be difference when implementing the code.

Program 1 : Abstraction

Video

- title : string
- author : string
- lengthSec : int
- comments : List<Comment>

Video (title, author, lengthSec)

Comment

- name : string
- commentText : string

Comment (name, commentText)

DisplayCommentDetails() : void

GetNumberOfComments() : int

LengthMinSec() : string

AddToCommentList(comment) : void

DisplayVideoDetails() : void

⇒ List<Video>

Program 2 : Encapsulation

Order

- products : List <Product>
- customerName : string
- totalPrice : double
- destination : string

Order (CustomerName, destination)

GetTotalPrice() : double

GetPackingLabel() : string

GetShippingLabel() : string

GetShippingCost(bool IsUSA) : int

Product

- name : string
- productID : string
- quantity : int

Product (name, productID, quantity)

Customer

- name : string
- address : Address

Customer (name, address)

IsUSA() : bool

Address

- streetAddress : string
- city : string
- stateProvince : string
- country : string

Address (streetAddress, city, stateProvince, country)

IsUSA() : bool

GetFullAddress() : string

Program 3: Inheritance

Event (base class)

- eventTitle : string
- description : string
- date : string
- time : string
- address : Address

Event (eventTitle, description, date, time, address)

GetStandardDetails () : string

GetShortDescription () : string

Lecture : Event

- speaker : string
- capacity : int

Lecture (eventTitle, description, date, time, address, speaker, capacity)
: base (...)

GetFullDetails () : string

OutdoorGathering : Event

- weather : string

OutdoorGathering (eventTitle, description, date, time, address, weather)
: base (...)

GetWeatherStatement () : string

GetFullDetails () : string

Address

- streetAddress : string
- city : string
- stateProvince : string
- country : string

Address (streetAddress, city, stateProvince, country)

GetFullAddress () : string

Reception : Event

- registration : RSVP

Reception (eventTitle, description, date, time, address, registration)
: base (...)

GetInvitationEmail () : string

GetFullDetails () : string

RSVP

- name : string
- email : string

RSVP (name, email)

GetRSVP () : string

Program 4: Polymorphism

Activity (base class) abstract

- name : string
- date : string
- lengthMin : double

Activity (date, length)

GetDistance() : double abstract

GetSpeed() : double abstract

GetPace() : double abstract

GetSummary() : string

GetStoredForm() : string abstract

Running : Activity

- distanceKm : double

Running (date, length, distanceKm)
: base(...)

GetStoredForm() : string

GetSpeed() : double

GetPace() : double

Cycling : Activity

- speedKmh : double

Cycling (date, length, speedKmh)
: base(...)

Swimming : Activity

- lap : int

Swimming (date, length, lap)
: base(...)

GetStoredForm() : string

GetDistance() : double

GetPace() : double

GetStoredForm() : string

GetDistance() : double

GetSpeed() : double

GetDistance() : double