**Final Project Design**

**Foundation 1 Program**

**Class Program:**

**Variables:** \_videos: a list of video objects

**Methods:** CreateVideos(), DisplayVideos()

**Class Video:**

**Variables:** \_title, \_author, \_length, \_comments

**Constructor:** Video(): creates an empty list for comments

**Methods:** SetTitle(), GetTitle(), SetAuthor(), GetAuthor(), SetLength(), GetLength(), AddComment(), GetComments(), GetNumberOfComments()

**Class Comment:**

**Variables:** \_name, \_text

**Constructor:** Comment(): initializes a new instance of the Comment class with the name and text.

**Methods:** GetName(), GetText()

**Foundation 2 Program**

**Class Order:**

**Variables:** \_customer, \_products

**Constructor:** Order(): Initializes new instance with specified customer

**Methods:** AddProduct(), GetTotalCost(), GetPackingLabel(), GetShippingLabel()

**Class Product:**

**Variables:** \_name, \_productId, \_price, \_quantity

**Constructor:** Product(): Initializes new instance with specified attributes

**Class Customer:**

**Variables:** \_name, \_address

**Constructor:** Customer(): initializes new instance with specified name and address

**Methods:** IsInUSA(), GetShippingCost(), GetAddressString()

**Class Order:**

**Variables:** \_streetAddress, \_city, \_state, \_country

**Constructor:** Address(): initializes new instance with specified attributes

**Methods:** IsInUSA(), ToString()

**Foundation 3 Program**

**Class Event:**

**Variables:** \_title, \_description, \_date, \_time, \_address

**Constructor:** Event(): Initializes new instance with specified attributes

**Methods:** GetStandardDetails(), GetFullDetails(), GetShortDescription()

**Class LectureEvent(base:Event):**

**Variables:** \_speaker, \_capacity

**Constructor:** LectureEvent(): Initializes new instance with specified attributes

**Methods:** GetFullDetails()

**Class ReceptionEvent(base:Event):**

**Variables:** \_email

**Constructor:** ReceptionEvent(): initializes new instance with specified attributes

**Methods:** GetFullDetails()

**Class OutdoorGatheringEvent(base:Event):**

**Variables:** \_weather

**Constructor:** OutdoorGatheringEvent(): initializes new instance with specified attributes

**Methods:** GetFullDetails()

**Class Address:**

**Variables:** \_street, \_city, \_state, \_zipCode

**Constructor:** Address(): initializes new instance with specified attributes

**Methods:** ToString()

**Foundation 4 Program**

**Class Activity:**

**Variables:** \_date, \_minutes

**Constructor:** Activity(): Initializes new instance with specified attributes

**Methods:** CalculateDistance(), CalculateSpeed(), CalculatePace(), GetSummary()

**Class RunningActivity(base:Activity):**

**Variables:** \_distance

**Constructor:** RunningActivity(): Initializes the date, minutes, and distance

**Methods:** CalculateDistance(), CalculateSpeed(), CalculatePace()

**Class CyclingActivity(base:Activity):**

**Variables:** \_speed

**Constructor:** CyclingActivity(): Initializes the date, minutes, and speed

**Methods:** CalculateDistance(), CalculateSpeed(), CalculatePace()

**Class SwimmingActivity(base:Activity):**

**Variables:** \_laps

**Constructor:** SwimmingActivity(): Initializes the date, minutes, and laps

**Methods:** CalculateDistance(), CalculateSpeed(), CalculatePace()