# coding: utf-8

# In[624]:

class Media(object):

library = {}

checked\_out = []

def \_\_init\_\_(self, title, author, publisher):

self.title = title

self.author = author

self.publisher = publisher

def addMedia(self):

if self not in Media.library:

Media.library[self] = 1

elif self in Media.library and Media.library[self]==0:

Media.library[self] = 1

Media.checked\_out.remove(self)

else:

print 'item is already added'

return Media.library

def removeMedia(self):

if self in Media.library and Media.library[self] > 0:

Media.library[self] -= 1

Media.checked\_out.append(self)

else:

print 'item does not exist'

return Media.library

# In[625]:

class Book(Media):

def \_\_init\_\_(self, title, author, publisher, num\_pages):

Media.\_\_init\_\_(self, title, author, publisher)

self.num\_pages = num\_pages

def info(self):

return self.title, self.author, self.publisher, self.num\_pages

def content(self):

return 'BOOK INFORMATION\n'+'-'\*len('BOOK INFORMATION')+'\nTitle: {}\n'.format(self.title)+'Author: {}\n'.format(self.author)+'Publisher: {}\n'.format(self.publisher)+'Number of Pages: {}\n'.format(self.num\_pages)

# In[626]:

class Video(Media):

def \_\_init\_\_(self, title, author, publisher, run\_time):

Media.\_\_init\_\_(self, title, author, publisher)

self.run\_time = run\_time

def info(self):

return self.title, self.author, self.publisher, self.run\_time

def content(self):

return 'VIDEO INFORMATION\n'+'-'\*len('VIDEO INFORMATION')+'\nTitle: {}\n'.format(self.title)+'Author: {}\n'.format(self.author)+'Publisher: {}\n'.format(self.publisher)+'Running Time (minutes): {}\n'.format(self.run\_time)

# In[627]:

x = Book("My Life","Ernest Picato","ACE Publishing",1)

y = Video("Action EJ", "Ernest Picato", "ACE Pictures", 90)

a = Book("My Life","Ernest Picato","ACE Publishing",11)

b = Video("Action EJ", "Ernest Picato", "ACE Pictures", 900)

c = Book("My Life","Ernest Picato","ACE Publishing",111)

d = Video("Action EJ", "Ernest Picato", "ACE Pictures", 901)

# In[628]:

x.addMedia()

# In[629]:

y.addMedia()

# In[630]:

a.addMedia()

# In[631]:

b.addMedia()

# In[632]:

c.addMedia()

# In[633]:

d.addMedia()

# In[634]:

Media.library

# In[635]:

Media.checked\_out

# In[636]:

class Member(object):

members = []

def \_\_init\_\_(self, name):

self.name = name

self.cart = []

self.members.append(self)

def checkOut(self, media):

if len(self.cart) < 2:

if media in Media.library and Media.library[media] > 0:

media.removeMedia()

self.cart.append(media)

else:

for m in Member.members:

if media in m.cart:

print self.name +': The book/video is already checked out by member (' + m.name + ')'

else:

print 'cart is full'

return self.cart

def checkIn(self, media):

if media in self.cart:

media.addMedia()

self.cart.remove(media)

else:

print 'item not in cart'

return self.cart

def printCheckedOutItems(self):

for item in self.cart:

print item.info()

# In[637]:

e = Member('Ernest')

j = Member('EJ')

# In[656]:

e.checkOut(x)

# In[651]:

e.checkOut(y)

# In[649]:

j.checkOut(a)

# In[641]:

e.cart

# In[654]:

e.checkIn(x)

# In[643]:

e.checkIn(y)

# In[644]:

e.cart

# In[645]:

j.cart

# In[617]:

Media.checked\_out

# In[618]:

def displayStats():

books = sum(isinstance(i, Book) for i in Media.library)

videos = sum(isinstance(i, Video) for i in Media.library)

checked\_books = [i for i in Media.checked\_out if isinstance(i, Book)]

checked\_videos = [i for i in Media.checked\_out if isinstance(i, Video)]

print 'MEMBER COUNT: ' + str(len(Member.members)) + '\n'

if len(checked\_books) == 0:

print 'Inventory includes '+ str(books) + ' book(s), with ' + str(len(checked\_books)) + ' checked out.\n'

else:

print 'Inventory includes '+ str(books) + ' book(s), with ' + str(len(checked\_books)) + ' checked out. Checked out book(s):\n'

for b in checked\_books:

print b.content()

if len(checked\_videos) == 0:

print 'Inventory includes '+ str(videos) + ' video(s), with ' + str(len(checked\_videos)) + ' checked out.\n'

else:

print 'Inventory includes '+ str(videos) + ' video(s), with ' + str(len(checked\_videos)) + ' checked out. Checked out video(s):\n'

for b in checked\_videos:

print b.content()

print 'Summary of checked out item(s):\n'

for i in Media.checked\_out:

print i.info()

# In[619]:

displayStats()

# In[620]:

e.printCheckedOutItems()

# In[621]:

j.printCheckedOutItems()