**FUNCTIONS FOR TEST CASES**

*##DETAILS FIELD***def** dateSwap(range): *#This function serves the purpose of "flipping" date values in the datelimitField function* **if** range[0] > range[1]:  
 temp = range[0]  
 range[0]=range[2]  
 range[2]=temp  
 **return** range  
 **else**:  
 **return** range  
  
**def** datelimitField(field):  
 daterange = field.split(**"/"**)  
 daterange = dateSwap(daterange)  
 daterange[2] = int(daterange[2])  
 daterange[0] = int(daterange[0])  
 **if** daterange [2] <= date.today().year:  
 **return False  
 else**:  
 **return True***##DATABASE ACCESS AND CONTROL FUNCTIONS***def** retrieveField(field, key, val):  
 **if** data.retrieve(tables[field], key, val) == data.retrieve(tables[field], key, val):  
 **return True  
 else**:  
 **return False  
  
def** insertField(type):  
 change = **False  
 if** type == **"Parking"**:  
 data.insertParkingPermit(dict(User\_ID=1000, Vehicle\_Type=**"Two Wheeler"**, Department=**"Admin"**, Permit\_Duration=**"Yearly"**,Permit\_Start=**"10/11/2015"**, Permit\_End=**"10/11/2016"**, Approved=**"Approved"**))  
 change = **True** data.delete(tables[0], **"User\_ID"**, 1000)  
 **elif** type == **"Other"**:  
 data.insertOtherViolation(dict(User\_ID=1000, Violation\_Type=**"Other"**, Description=**"Public Nudity"**, Department=**"Visitor"**,Supervisor=**"Angelica Cole"**, Date=**"2016/05/20"**, Time=**"15:00"**, Place\_in\_campus=**"In front of P Block"**))  
 change = **True** data.delete(tables[2], **"User\_ID"**, 1000)  
 **elif** type == **"HS"**:  
 data.insertHealthAndSafetyIssue(dict(Date=**"01/02/2016"**, Time=**"10:00"**, Person\_Name=**"Test"**, Department=**"Science and Engineering"**, Description=**"Yes"**, Resolution\_Date=**"2016/02/01"**, Resolution\_Time=**"12:00"**,Resolution\_Description=**"Chemical spill was cleaned"**, Supervisor=**"Iris West"**,Place\_in\_campus=**"W block level 2"**))  
 change = **True** data.delete(tables[3], **"Person\_Name"**, **"Test"**)  
 **elif** type == **"Vio"**:  
 data.insertParkingViolation(dict(User\_ID=1000, Date=**"2016/01/10"**, Time=**"10:00"**, Description=**"Illegally Parked in a handicap zone"**, Permit\_Number=1000,Vehicle\_License\_number=**"WAM-011"**, Vehicle\_Type=**"Two Wheeler"**))  
 change = **True** data.delete(tables[1], **"Permit\_Number"**, 1000)  
 **if** change:  
 **return False  
 else**:  
 **return True  
  
def** passwordField(email, password):  
 **if** (email, password) == data.passwordCheck(email, password):  
 **return False  
 else**:  
 **return True  
  
def** deleteField():  
 data.insertParkingPermit(dict(User\_ID = 1000 , Vehicle\_Type = **"Two Wheeler"**, Department = **"Admin"**, Permit\_Duration = **"Yearly"**, Permit\_Start = **"10/11/2015"**, Permit\_End = **"10/11/2016"** , Approved = **"Approved"**))  
 **if** data.retrieve(tables[0], **"User\_ID"**, 1000):  
 data.delete(tables[0], **"User\_ID"**, 1000)  
 **return True  
 else**:  
 **return False  
  
def** paymentField(status):  
 **if** data.retrieve(tables[4],**"Payment\_status"**, status):  
 **return True  
 else**:  
 **return False  
  
def** noteAd(notification):  
 listlength = len(alertmessages)  
 alertmessages.append(notification)  
 **if** listlength < len(alertmessages):  
 **return True  
 else**:  
 **return False  
  
def** noteRemove():  
 listlength = len(alertmessages)  
 alertmessages.pop()  
 **if** listlength > len(alertmessages):  
 **return True  
 elif** listlength <= len(alertmessages):  
 **return False  
  
def** existingCheck(newtype, id):  
 **if** newtype == **"OverduePayment"**:  
 **return True  
 if** newtype == **"PaymentTest"**:  
 **if** getFine(1000):  
 **return True  
 else**:  
 **return False  
  
def** cardNumCheck(cardnumber):  
 testcard = views.protectCardNum(str(cardnumber))  
 **if** re.match(**".\*X"**, testcard):  
 **return True  
 else**:  
 **return False  
  
def** checkLogin(ID):  
 **if**(ID == 1):  
 status = dict(loggedIn=**False**,admin=**False**)  
 **if**(ID == 2):  
 status = dict(loggedIn=**True**,admin=**True**)  
 **if** status:  
 **return False  
 else**:  
 **return True  
  
def** userInsert():  
 data.insertUser(dict(Name = **"Test"**,Email = **"Test"**,Password = **"Test"**, Department = **"Test"**, Account\_Type = **"Test"**))  
 **if** data.retrieve(**"Users"**, **"Email"**, **"Test"**):  
 **return True  
 else**:  
 **return False  
  
def** userDelete(Test):  
 **if** data.retrieve(**"Users"**, **"Email"**, Test):  
 data.delete(**"Users"**, **"Name"**, Test)  
 **if** data.retrieve(**"Users"**, **"Email"**, Test):  
 **return False  
 else**:  
 **return True  
 else**:  
 **return False  
  
def** paymentCheck(action, other):  
 **if** action == **"Insert"**:  
 data.insertFinePayment(dict(Citation\_Number = other, Citation\_Type = **"Test"**, Payment\_status = **"Testing"**))  
 **if** data.retrieve(**"finePayments"**, **"Citation\_Number"**, other):  
 **return True  
 else**:  
 **return False  
 elif** action == **"Details"**:  
 data.insertPaymentDetails(dict(Fine\_Number = other, Amount = 90, Date = **"2016/10/12"**, Card\_Name = **"Test"**, Card\_Type = **"Test"**, Card\_Number = **"1111 XXXX XXXX 1111"**, Expiration\_date = **"06/19"**, First\_Name = **"Test"**, Last\_Name = **"Test"**,  
 Billing\_Address = **"12 Test St"**, City = **"Brisbane"**, Post\_Code = **"4000"**, Phone = **"0411 111 111"**))  
 **if** data.retrieve(**"paymentDetails"**, **"Fine\_Number"**, other):  
 **return True  
 else**:  
 **return False  
 elif** action == **"Check"**:  
 **if** data.retrieve(**"paymentDetails"**, **"Fine\_Number"**, other):  
 **return True  
 else**:  
 **return False  
 elif** action == **"Amount"**:  
 **if** data.retrieve(**"paymentDetails"**, **"Fine\_Number"**, other):  
 amount = (**"paymentDetails"**, **"Amount"**)  
 **if** amount:  
 **return True  
 else**:  
 **return False  
 elif** action == **"Remove"**:  
 **if** data.retrieve(**"finePayments"**, **"Citation\_Number"**, other):  
 data.delete(**"finePayments"**, **"Citation\_Number"**, other)  
 **if** data.retrieve(**"finePayments"**, **"Citation\_Number"**, other):  
 **return False  
 else**:  
 **return True  
 else**:  
 **return False  
 elif** action == **"Update"**:  
 **if** data.retrieve(**"paymentDetails"**, **"Fine\_Number"**, other):  
 **return True  
 else**:  
 **return False  
 elif** action == **"RemoveD"**:  
 **if** data.retrieve(**"paymentDetails"**, **"Fine\_Number"**, other):  
 data.delete(**"paymentDetails"**, **"Fine\_Number"**, other)  
 **if** data.retrieve(**"paymentDetails"**, **"Fine\_Number"**, other):  
 **return False  
 else**:  
 **return True  
 else**:  
 **return False  
 else**:  
 **return False**