

# **EXAM-REPLACEMENT COURSE WORK -2021**



**Subject:** Programming and Algorithm

**Submitted to:**

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# Testing

## Black box testing:

TEST NAME: ADD DATA TEST					
PRE-CONDITION: USER NEEDS TO FILL ALL THE FIELDS WITH VALID DATA					
S.N	Test Case	Test Data	Expected Result	Actual Result	Remarks
1.	Valid details are to be added to each field.	All valid inputs	Added Successfully	Added Successfully	PASS
2.	Invalid data are to be added or any of the field is kept empty.	Empty name field.	Data adding unsuccessful.	Data not added	PASS

CASE 1:

The screenshot shows the 'Employee Registration System' window. On the left, the 'Employee Data Upload' form has the following fields filled: I.D. (210245), Name (Alex Wellington), Email (aabbcc@gmail.com), D.O.B (02-11-1995), Gender (male), Contact No. (873678), and Address (abcd). At the bottom of the form are 'Add', 'Delete', and 'Clear' buttons. On the right, the 'Search By' section has a dropdown menu and a search bar. Below it is a table with columns: ID, Name, Email, D.O.B, and Gender. The table contains three rows of data. A 'Message' dialog box is displayed in the center, stating 'Stored successfully' with an 'OK' button.

ID	Name	Email	D.O.B	Gender
Samana	AA	xyz	234	female
...	...	...	...	...
Prasuna Shrestha	xyz@gmail.com	xyz@gmail.com	21-03-1998	female

CASE 2:

The screenshot shows the 'Employee Registration System' window. On the left, the 'Employee Data Upload' form has the following fields filled: I.D. (210245), Name (empty), Email (aabbcc@gmail.com), D.O.B (02-11-1995), Gender (male), Contact No. (873678), and Address (abcd). At the bottom of the form are 'Add', 'Delete', and 'Clear' buttons. On the right, the 'Search By' section has a dropdown menu and a search bar. Below it is a table with columns: ID, Name, Email, D.O.B, and Gender. The table contains three rows of data. A 'Warning' dialog box is displayed in the center, stating 'fill the empty field!!' with an 'OK' button.

ID	Name	Email	D.O.B	Gender
Samana	AA	xyz	234	female
...	...	...	...	...
Alex Wellington	aabbcc@gmail.com	aabbcc@gmail.com	02-11-1995	male

**Test Name: DELETE DATA TEST****Pre-Condition: THERE SHOULD BE AN EXISTING DATABASE**

S.N	Test Case	Test Data	Expected Result	Actual Result	Remarks
1.	User permission is asked before deletion of data.	User permit is asked.	Pop up window appeared	Pop up window appeared	PASS
2.	User data is to be deleted	User data is selected and delete button is clicked.	Deleted Successfully	Deleted Successfully	PASS

Employee Registration System

### Employee Data Upload

I.D.

Name

Email

D.O.B

Gender

Contact No.

Address

Search By

ID	Name	Email	D.O.B	Gender
Samana	xyz	234	female	
AA	A	A	female	
...	KK	KK	prefer not to	
...	KK	KK	prefer not to	
Alex Wellington	aabbcc@gmail.com	02-11-1995	male	

Confirm

Are you sure you want to delete this record?

**Test Name: UPDATE DATA**

**Pre-Condition: USER NEEDS TO MAKE CHANGES TO EXISTING DATA**

S.N	Test Case	Test Data	Expected Result	Actual Result	Remarks
1.	Any one of the entry is to be changes by a valid data.	Valid input change in any field.	Updated successfully	Updated successfully	PASS

Employee Registration System

Employee Data Upload

I.D.

210246

Name

THIS THAT

Email

abc@gmail.com

D.O.B

02-07-2002

Gender

female

Contact No.

34567

Address

Nepal

Add

Update

Delete

Clear

Search By

ID

Search

Show All

ID	Name	Email	D.O.B
210246	Samana Shrestha	abc@gmail.com	02-07-2002
23456	Alex Wellington	xyz@gmail.com	24-09-1995
123456	Nirmala KC	ghi@gmail.com	02-12-1984

Message

Updated successfully

OK

<b>Test Name: SEARCH DATA TEST</b>					
<b>Pre-Condition: N/A</b>					
S.N	Test Case	Test Data	Expected Result	Actual Result	Remarks
1.	Search by ID from drop down menu.	Using ID to search from Database	ID-wise Search list	ID-wise Search list	PASS
2.	Search by name from drop down menu.	Using name to search from Database	Name-wise Search list	Name-wise Search list	PASS
3.	Search by contact from drop down menu.	Using contact to search from Database	Contact-wise Search list	Contact-wise Search list	PASS

**CASE 1:**

**Search By**

ID

210246

Search

Show All

ID	Name	Email	D.O.B
210246	THIS THAT	abc@gmail.com	02-07-2002

**CASE 2:**

**Search By**

Name

Alex Wellington

Search

Show All

ID	Name	Email	D.O.B
23456	Alex Wellington	xyz@gmail.com	24-09-1995

### CASE 3:

Search By	Contact	123456	Search	Show All
ID	Name	Email	D.O.B	
123456	Nirmala KC	ghi@gmail.com	02-12-1984	

## Unit Testing:

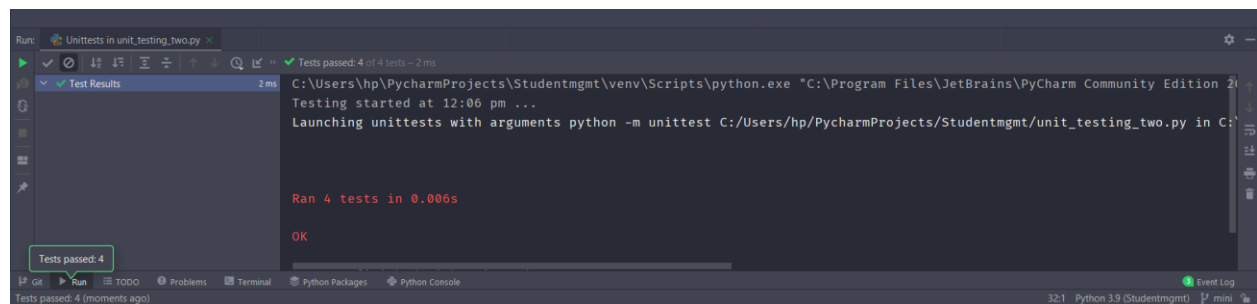
```
import unittest
import sqlite3
import os

class TestConnection(unittest.TestCase):
    def test_database_readable(self):
        self.assertTrue(os.access("employee.db", os.R_OK))

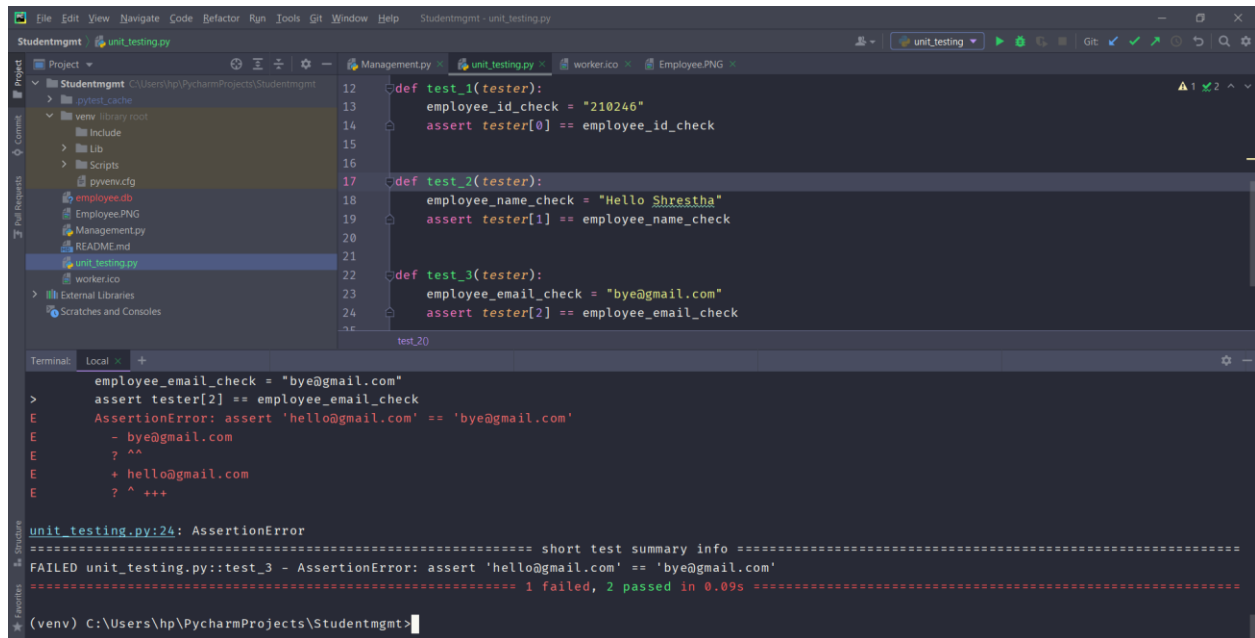
    def test_create_database(self):
        conn = sqlite3.connect("employee.db")
        cursor = conn.cursor()
        cursor.execute("CREATE TABLE IF NOT EXISTS STUD_REGISTRATION (STU_ID text, STU_NAME text, STU_EMAIL text, STU_DOB text)")
        conn.commit()
        conn.close()

    def test_update_database(self):
        conn = sqlite3.connect("employee.db")
        cursor = conn.cursor()
        cursor.execute(f'UPDATE STUD_REGISTRATION SET STU_ID=1 WHERE STU_ID = ?', [0])
        conn.commit()
        conn.close()

    def test_connect_database(self):
        conn = sqlite3.connect("employee.db")
        conn.close()
```



## Py-testing:



The screenshot shows the PyCharm IDE interface. The top toolbar includes menus like File, Edit, View, Navigate, Code, Refactor, Run, Tools, Git, Window, and Help. The project explorer on the left shows the file structure of 'Studentmgmt', including 'unit\_testing.py'. The main editor displays the code for 'unit\_testing.py' with three test functions: 'test\_1', 'test\_2', and 'test\_3'. The terminal at the bottom shows the execution of these tests, with 'test\_3' failing due to an AssertionError. The output includes a short test summary and a final status report: '1 failed, 2 passed in 0.09s'.

```
def test_1(tester):
    employee_id_check = "210246"
    assert tester[0] == employee_id_check

def test_2(tester):
    employee_name_check = "Hello Shrestha"
    assert tester[1] == employee_name_check

def test_3(tester):
    employee_email_check = "bye@gmail.com"
    assert tester[2] == employee_email_check

employee_email_check = "bye@gmail.com"
assert tester[2] == employee_email_check
E AssertionError: assert 'hello@gmail.com' == 'bye@gmail.com'
E - bye@gmail.com
E ? ^^
E + hello@gmail.com
E ? ^ +++

unit_testing.py:24: AssertionError
===== short test summary info =====
FAILED unit_testing.py::test_3 - AssertionError: assert 'hello@gmail.com' == 'bye@gmail.com'
===== 1 failed, 2 passed in 0.09s =====

(venv) C:\Users\hp\PycharmProjects\Studentmgmt>
```