

# **Computer** **Science**

## **Class XII** **Practical Journal** **(Python-Project)**

**Submitted By:-**

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**(XII - SCIENCE)**

**Shri Vasantao Banduji Patil Trust's  
APPASAHEB BIRNALE PUBLIC SCHOOL, SANGLI  
SENIOR SECONDRY**

**(AFFILIATED TO CBSE, NEW DELHI, NO: 1130074)**

**Behind Railway Station, Shinde Mala, Sangli., Maharashta**



**DEPARTMENT OF COMPUTER SCIENCE**

# **CERTIFICATE**

**Certified that this is a bonafide record of the project work in**

## **COMPUTER SCIENCE**

**Submitted to the Central Board of Secondary Education in partial fulfillment of**

### **Senior Secondary Examination.**

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**DATE**

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**Principal**

**Submitted for Practicle Examination and VivaVoice held on \_\_\_\_\_**

\_\_\_\_\_  
**Internal Examiner**

\_\_\_\_\_  
**External Examiner**

## **DECLARATION**

I, ADITYA SAMBHAJI BABAR, hereby declare that this work entitled "Class XII Practical Journal" submitted to APPASAHEB BIRNALE PUBLIC SCHOOL SENIOR SECONDRY, Shinde Mala, Sangli., Maharashta, 416416 (Affiliated to CBSE, New Delhi, and Affiliation No. 1130074) is original record work done by me under the supervision and guidance of Mr. Sushant Pawar, Department of Computer Science.

**Name of Candidate**

**Register No.**

**Signature of the  
Candidate**

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**Countersigned By:**

Mr. Sushant Pawar  
Teacher incharge  
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Place: Sangli

**Date :** -----

# **ACKNOWLEDGEMENT**

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*I would like to express my gratitude towards my parents for their kinf co-operation and encouragment which help me in completion of this project.*

*My thanks and appreciations also go to my colleague in developing the project and people who have willingly helped me out with their abilities.*

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# **AIM**

*Write a program to insert, delete, update and display student data. This project is based on student management, making the process of maintaining student data/records easier.*

# REQUIREMENTS

S. No.	Modules
1.	<p><u>mysql.connector:-</u></p> <p><i>MySQL Connector/Python is a MySQL driver written in Python.</i></p> <p><u>Command for installing module:-</u></p> <p><b><u>pip install mysql.connector</u></b></p>
2.	<p><u>Tabulate:-</u></p> <p><i>Pretty-print tabular data.</i></p> <p><u>Command for installing module:-</u></p> <p><b><u>pip install tabular</u></b></p>

# CODE

```
import mysql.connector
from mysql.connector import Error
from tabulate import tabulate

print("====#! welcome !#!====")

username = input("Enter your username :\t")
# username = "administrator"
password = input(f"Enter your password {username} :\t")
# password = "administrator"

def create_db_connection(host_name, user_name, password, data
base):
    try:
        global mysqlldb
        mysqlldb = mysql.connector.connect(
            host=host_name,
            user=user_name,
            passwd=password,
            db=database
        )
        print("Database connection succesfull.")
    except Error as err:
        print(f"Error :\t'{err}'")
    return create_db_connection

def create_db(connection, query0):
    cur = mysqlldb.cursor()
    try:
        cur.execute(query0)
        mysqlldb.commit()
        print("Database created successfully.")
    except Error as err:
```



```

print(f"Error : '{err}")

def execute_query(connection, query1):
    global cursor
    cursor = mysqlldb.cursor()
    try:
        cursor.execute(query1)
        mysqlldb.commit()
        print("Table created successfully.")
    except Error as err:
        print(f"Error : '{err}")

def show_data_of_subject(id_of_stu):
    cursor.execute(
        f"SELECT * FROM test.student_master WHERE ID = '{id_of_stu}'")
    row = cursor.fetchall()
    print(tabulate(row, headers=cursor.column_names), "\n")

def choice1():
    no_of_entries = int(
        input("Enter the number of entries you want to do :\t"))

    for _ in range(no_of_entries):
        #ID = int(input("Enter the id of the student :\t"))
        Name = input("Enter the name of the student :\t")
        Age = input("Enter the age of the student :\t")
        Gender = input("Enter the gender of the student (m/f/o) :\t")
        Address = input("Enter the address of the student :\t")
        Phone_number = input(
            "Enter the contact number of the student (eg: 9567896522) :\t")
        Email_address = input("Enter the email address of the student :\t")

        cursor.execute('''INSERT INTO test.student_master (Name, Age, Gender, Address, Phone_number, Email_address) VALUES (
            %s, %s, %s, %s, %s, %s

```

```

    ) ''' , params=(Name, Age, Gender, Address, Phone_number,
Email_address))
    mysqlldb.commit()
    cursor.execute("SELECT * FROM test.student_master")
    rows = cursor.fetchall()
    print("\n", tabulate(rows, headers=cursor.column_names), "\n")

```

```
def choice2():
```

```
    print(''
```

```
        How do you want to search for the student details ?
```

```
        You can choose the options from the list given below :-
```

```

=====
|      1. ID      |
|      2. Name    |
|      3. Age     |
|      4. Gender  |
|      5. Address(city)  |
=====
    ''')

```

```
def options1(option):
```

```
    if option == "1":
```

```
        stu_id = int(
```

```
            input("Enter the id of the student you want to search : \n"))
```

```
        cursor.execute(
```

```
            f"SELECT * FROM test.student_master WHERE ID = '{stu_id}';")
```

```
        rows = cursor.fetchall()
```

```
        print("\n", tabulate(rows, headers=cursor.column_names), "\n")
```

```
    elif option == "2":
```

```
        stu_name = input(
```

```
            "Enter the name of the student you want to search :\n"))
```

```
        cursor.execute(
```

```
            f"SELECT * FROM test.student_master WHERE Name = '{stu_name}';")
```

```
        rows = cursor.fetchall()
```

```

        print("\n", tabulate(rows, headers=cursor.column_names),
"\n")

    elif option == "3":
        stu_age = input(
            "Enter the age of the student you want to search :\t")
        cursor.execute(
            f"SELECT * FROM test.student_master WHERE Age = '{stu_age}';")
        rows = cursor.fetchall()
        print("\n", tabulate(rows, headers=cursor.column_names),
"\n")

    elif option == "4":
        stu_gender = input(
            "Enter the gender of the student you want to search :\t")
        cursor.execute(
            f"SELECT * FROM test.student_master WHERE Gender = '{stu_gender}';")
        rows = cursor.fetchall()
        print("\n", tabulate(rows, headers=cursor.column_names),
"\n")

    elif option == "5":
        stu_address = input(
            "Enter the address of the student you want to search :\t")
        cursor.execute(
            f"SELECT * FROM test.student_master WHERE Address = '{stu_address}';")
        rows = cursor.fetchall()
        print("\n", tabulate(rows, headers=cursor.column_names),
"\n")

    try:
        option = input("Enter your option here :\t")
        options1(option)
    except Error as err:
        print("You entered a invalid option, try again !!!")
        print(err)

```

```

def choice3():
    id_of_stu = input(
        "Enter the id of the student who's details you want to update :\t")
    show_data_of_subject(id_of_stu)
    column_name = input("Enter the column name you want to update :\t")
    new_data = input("Enter the new data you want to insert :\t")
    cursor.execute(
        f"SELECT {column_name} FROM test.student_master WHERE ID = '{id_of_stu}'")
    old_data = cursor.fetchall()
    for _ in range(2):
        old_data = old_data[0]
    cursor.execute(
        f"UPDATE student_master SET {column_name} = '{new_data}' where {column_name} = '{old_data}'")
    mysqlldb.commit()
    show_data_of_subject(id_of_stu)

def choice4():
    id_of_stu = int(input(
        "Enter the id of the student who's details you want to delete from the database :\t"))
    show_data_of_subject(id_of_stu)
    answer = input(
        "Do you want to delete the data of the particular student ('y'/'n') :\t")
    if answer == "y":
        cursor.execute(
            f"DELETE FROM test.student_master WHERE ID = '{id_of_stu}'")
        mysqlldb.commit()
        cursor.execute(f"SELECT * FROM test.student_master")
        rows = cursor.fetchall()
        print("\n", tabulate(rows, headers=cursor.column_names), "\n")
    else:
        print("Continue ....")

```

```

def choice5():
    connection = create_db_connection(
        "localhost", "hacker07", "admin1234", "test")
    query0 = "CREATE DATABASE if not exists test;"
    query1 = '''
        CREATE TABLE if not exists admin_master(
            ID INT Primary Key AUTO_INCREMENT,
            Username Varchar(30) NOT NULL,
            Name varchar(30) NOT NULL,
            Age int NOT NULL,
            Gender char(1) NOT NULL,
            Address varchar(50) NOT NULL,
            Phone_number char(10) ,
            Email_address varchar(20) ,
            Password Varchar(50) NOT NULL
        );
        '''

    create_db(connection, query0)
    execute_query(connection, query1)
    while True:
        admin_username = input("enter the username of the admin user :\t")
        Name = input("Enter the name of the admin_user :\t")
        Age = input("Enter the age of the admin_user :\t")
        Gender = input("Enter the gender of the admin_user (m/f/o):\t")
        Address = input("Enter the address of the admin_user :\t")
        Phone_number = input(
            "Enter the contact number of the admin_user (eg: 9567896522) :\t")
        Email_address = input("Enter the email address of the admin_user :\t")
        admin_password = input("enter the password for the admin user :\t")
        confirm_admin_password = input(
            "Comfirm the password for the admin user :\t")

        if admin_password == confirm_admin_password:
            cursor.execute('''INSERT INTO test.admin_master (Username, Name, Age, Gender, Address, Phone_number, Email_address, Password) VALUES (''' + admin_username + ',' + Name + ',' + str(Age) + ',' + Gender + ',' + Address + ',' + Phone_number + ',' + Email_address + ',' + admin_password + ');''')

```

```

assword) VALUES (
    %s, %s, %s, %s, %s, %s, %s, %s
) ''' , params=(admin_username, Name, Age, Gender, Address, Phone_number, Email_address, confirm_admin_password))
mysqldb.commit()
cursor.execute("SELECT * FROM test.admin_master;")
print(f"{admin_username} added to the the database.")
break

```

```

else:
    print(f"The password do not match, plz try again!!!")

```

```

def options():
    print(''
====!!! APPASAHEB BIRNALE PUBLIC SCHOOL !!! ====

```

```

=====
| 1. Insert student details |
| 2. Search student details |
| 3. Update student details |
| 4. Delete student details |
| 5. Add administrator user |
| 6. Enter 'q' to exit      |
=====

```

```

''' )
choice = input("Enter the option you want from 1-4 :\t")

```

```

if choice == "1":
    choice1()

```

```

elif choice == "2":
    choice2()

```

```

elif choice == "3":
    choice3()

```

```

elif choice == "4":
    choice4()

```

```

elif choice == "5":
    choice5()

```

```

elif choice == "q":
    exit()

else:
    print("The option you choosed is invalid . Plz choose a number from 1-4.")
    return options()

def check_admin_user(username, password):
    connection = create_db_connection(
        "localhost", "hacker07", "admin1234", "test")
    query0 = "CREATE DATABASE if not exists test;"
    create_db(connection, query0)
    cursor = mysqldb.cursor()
    cursor.execute(
        f"SELECT Username,Password FROM test.admin_master WHERE Username = '{username}';")
    # execute_query(connection, query1)
    credential = cursor.fetchall()
    password1 = credential
    for _ in range(2):
        credential = credential[0]
        password1 = password1[0]
        password1 = password1[1]
    print(password1)

    if username == credential and password == password1:

        connection = create_db_connection(
            "localhost", "hacker07", "admin1234", "test")
        query0 = "CREATE DATABASE if not exists test;"
        query1 = '''
            CREATE TABLE if not exists student_master(
                ID INT Primary Key AUTO_INCREMENT,
                Name varchar(30) NOT NULL,
                Age int NOT NULL,
                Gender char(1) NOT NULL,
                Address varchar(50) NOT NULL,
                Phone_number char(10) ,
                Email_address varchar(20) ,
                CONSTRAINT chk_stu CHECK (Age<=20 AND Gender in ('m','f','o'))
        '''

```

```
);  
...  
  
create_db(connection, query0)  
execute_query(connection, query1)  
while True:  
    options()  
  
else:  
    print("\nPasswords credentials are wrong.\n"*2)  
    print("Sorry!!! Plz check your username and password once  
again.")  
  
check_admin_user(username, password)
```



# OUTPUT

(python\_project)

└─[hacker07@parrot]─[/media/hacker07/0876-1B06/aditya\_babar/python\_project]

└─\$python student\_managment.py

=====!!!! welcome !!!!=====

Enter your username : hacker07

Enter your password hacker07 : 149489

Database connection succesfull.

Database created successfully.

149489

Database connection succesfull.

Database created successfully.

Table created successfully.

====!!! APPASAHEB BIRNALE PUBLIC SCHOOL !!!====

```
=====
| 1. Insert student details      |
| 2. Search student details      |
| 3. Update student details      |
| 4. Delete student details      |
| 5. Add administrator user      |
| 6. Enter 'q' to exit           |
=====
```

Enter the option you want from 1-4 : 1

Enter the number of entries you want to do : 2

Enter the name of the student : sairaj

Enter the age of the student : 17

Enter the gender of the student (m/f/o) : m

Enter the address of the student : sangli

Enter the contact number of the student (eg: 9567896522) : 745689123

Enter the email address of the student : sai@gmail.com

Enter the name of the student : aditya

Enter the age of the student : 17

Enter the gender of the student (m/f/o) : m

Enter the address of the student : bedag

Enter the contact number of the student (eg: 9567896522) : 7458961425

Enter the email address of the student : adi@gmail.com

ID	Name	Age	Gender	Address	Phone_number	Email_address
4	aditya	16	m	sangli	0123456789	aditya@gmail.com
5	avinash	17	m	miraj	7894561230	avinah@gmail.com
6	ak	17	f	sd	74	df
7	sairaj	17	m	sangli	745689123	sai@gmail.com
8	aditya	17	m	bedag	7458961425	adi@gmail.com

====!!! APPASAHEB BIRNALE PUBLIC SCHOOL !!!====

```
=====
| 1. Insert student details      |
| 2. Search student details     |
| 3. Update student details     |
| 4. Delete student details     |
| 5. Add administrator user     |
| 6. Enter 'q' to exit          |
=====
```

Enter the option you want from 1-4 : 2

How do you want to search for the student details ?

You can choose the options from the list given below :-

```
=====
| 1. ID                          |
| 2. Name                        |
| 3. Age                         |
| 4. Gender                      |
| 5. Address(city)              |
=====
```

Enter your option here : 1

Enter the id of the student you want to search : 5

ID	Name	Age	Gender	Address	Phone_number	Email_address
----	------	-----	--------	---------	--------------	---------------

5 avinash 17 m miraj 7894561230 avinah@gmail.com

====!!! APPASAHEB BIRNALE PUBLIC SCHOOL !!!====

```
=====
| 1. Insert student details      |
| 2. Search student details      |
| 3. Update student details      |
| 4. Delete student details      |
| 5. Add administrator user      |
| 6. Enter 'q' to exit           |
=====
```

Enter the option you want from 1-4 : 2

How do you want to search for the student details ?  
You can choose the options from the list given below :-

```
=====
| 1. ID                          |
| 2. Name                        |
| 3. Age                         |
| 4. Gender                      |
| 5. Address(city)              |
=====
```

Enter your option here : 2

Enter the name of the student you want to search : aditya

ID	Name	Age	Gender	Address	Phone_number	Email_address
4	aditya	16 m	sangli	0123456789	aditya@gmail.com	
8	aditya	17 m	bedag	7458961425	adi@gmail.com	

====!!! APPASAHEB BIRNALE PUBLIC SCHOOL !!!====

```
=====
| 1. Insert student details      |
| 2. Search student details      |
| 3. Update student details      |
=====
```

- | 4. Delete student details |
- | 5. Add administrator user |
- | 6. Enter 'q' to exit |

=====

Enter the option you want from 1-4 : 2

How do you want to search for the student details ?  
You can choose the options from the list given below :-

=====

- | 1. ID |
- | 2. Name |
- | 3. Age |
- | 4. Gender |
- | 5. Address(city) |

=====

Enter your option here : 3

Enter the age of the student you want to search : 17

ID	Name	Age	Gender	Address	Phone_number	Email_address
5	avinash	17	m	miraj	7894561230	avinah@gmail.com
6	ak	17	f	sd	74	df
7	sairaj	17	m	sangli	745689123	sai@gmail.com
8	aditya	17	m	bedag	7458961425	adi@gmail.com

====!!! APPASAHEB BIRNALE PUBLIC SCHOOL !!!====

=====

- | 1. Insert student details |
- | 2. Search student details |
- | 3. Update student details |
- | 4. Delete student details |
- | 5. Add administrator user |
- | 6. Enter 'q' to exit |

=====

Enter the option you want from 1-4 : 2

How do you want to search for the student details ?  
You can choose the options from the list given below :-

```
=====
| 1. ID                               |
| 2. Name                             |
| 3. Age                              |
| 4. Gender                           |
| 5. Address(city)                    |
=====
```

Enter your option here : 4

Enter the gender of the student you want to search : m

ID	Name	Age	Gender	Address	Phone_number	Email_address
4	aditya	16	m	sangli	0123456789	aditya@gmail.com
5	avinash	17	m	miraj	7894561230	avinah@gmail.com
7	sairaj	17	m	sangli	745689123	sai@gmail.com
8	aditya	17	m	bedag	7458961425	adi@gmail.com

====!!! APPASAHEB BIRNALE PUBLIC SCHOOL !!!====

```
=====
| 1. Insert student details           |
| 2. Search student details           |
| 3. Update student details           |
| 4. Delete student details           |
| 5. Add administrator user           |
| 6. Enter 'q' to exit                 |
=====
```

Enter the option you want from 1-4 : 2

How do you want to search for the student details ?  
You can choose the options from the list given below :-

```
=====
| 1. ID                               |
| 2. Name                             |
| 3. Age                              |
=====
```

| 4. Gender |  
| 5. Address(city) |

=====

Enter your option here : 5

Enter the address of the student you want to search : sangli

ID	Name	Age	Gender	Address	Phone_number	Email_address
----	------	-----	--------	---------	--------------	---------------

4	aditya	16	m	sangli	0123456789	aditya@gmail.com
7	sairaj	17	m	sangli	745689123	sai@gmail.com

====!!! APPASAHEB BIRNALE PUBLIC SCHOOL !!!====

=====

| 1. Insert student details |  
| 2. Search student details |  
| 3. Update student details |  
| 4. Delete student details |  
| 5. Add administrator user |  
| 6. Enter 'q' to exit |

=====

Enter the option you want from 1-4 : 3

Enter the id of the student who's details you want to update : 7

ID	Name	Age	Gender	Address	Phone_number	Email_address
----	------	-----	--------	---------	--------------	---------------

7	sairaj	17	m	sangli	745689123	sai@gmail.com
---	--------	----	---	--------	-----------	---------------

Enter the column name you want to update : Name

Enter the new data you want to insert : Sairaj Sonawane

ID	Name	Age	Gender	Address	Phone_number	Email_address
----	------	-----	--------	---------	--------------	---------------

7	Sairaj Sonawane	17	m	sangli	745689123	sai@gmail.com
---	-----------------	----	---	--------	-----------	---------------

====!!! APPASAHEB BIRNALE PUBLIC SCHOOL !!!====

=====

| 1. Insert student details |  
| 2. Search student details |

- | 3. Update student details |
- | 4. Delete student details |
- | 5. Add administrator user |
- | 6. Enter 'q' to exit |

=====

Enter the option you want from 1-4 : 4

Enter the id of the student who's details you want to delete from the database :

4

ID	Name	Age	Gender	Address	Phone_number	Email_address
4	aditya	16	m	sangli	0123456789	aditya@gmail.com

Do you want to delete the data of the particular student ('y'/'n') : y

ID	Name	Age	Gender	Address	Phone_number	Email_address
5	avinash	17	m	miraj	7894561230	avinah@gmail.com
6	ak	17	f	sd	74	df
7	Sairaj Sonawane	17	m	sangli	745689123	sai@gmail.com
8	aditya	17	m	bedag	7458961425	adi@gmail.com

====!!! APPASAHEB BIRNALE PUBLIC SCHOOL !!!====

=====

- | 1. Insert student details |
- | 2. Search student details |
- | 3. Update student details |
- | 4. Delete student details |
- | 5. Add administrator user |
- | 6. Enter 'q' to exit |

=====

Enter the option you want from 1-4 : 5

Database connection succesfull.

Database created successfully.

Table created successfully.

enter the username of the admin user : admin

Enter the name of the admin\_user : administrator

Enter the age of the admin\_user : 23

Enter the gender of the admin\_user (m/f/o) : f

Enter the address of the admin\_user : sangli  
Enter the contact number of the admin\_user (eg: 9567896522) : 7485961425  
Enter the email address of the admin\_user : admin@gmail.com  
enter the password for the admin user : admin@1234  
enter the password for the admin user : admin@1234  
admin added to the the database.

====!!! APPASAHEB BIRNALE PUBLIC SCHOOL !!!====

```
=====
| 1. Insert student details      |
| 2. Search student details     |
| 3. Update student details     |
| 4. Delete student details     |
| 5. Add administrator user     |
| 6. Enter 'q' to exit          |
=====
```

Enter the option you want from 1-4 : q

(python\_project)

└─[hacker07@parrot]─[/media/hacker07/0876-1B06/aditya\_babar/python\_proje  
ct]

└─\$

-----!!!Thank You!!!-----